A Clinical Lecture

ON

HYSTERICAL MUTISM AND OTHER FUNCTIONAL SPEECH DEFECTS.

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GENTLEMEN,—In my recently delivered Lumleian Lectures I dealt mainly with defects of speech referable to lesions in one or other of the four cortical word-centres, but the limited time at my disposal compelled me to omit one important section of this subject—namely, the consideration of the defects due to functional disabilities in the glosso-kinæsthetic word-centre. This portion of the subject, therefore, I propose to consider to-day.

Aphasia occurs not unfrequently in association with various sets of conditions as a temporary disability, and sometimes with a marked tendency to recurrence, where the brief duration and the complete recovery make it improbable that it can have been due to any gross lesion.

What the proximate causative conditions have been in these different sets of cases it is often impossible definitely to say. Instead of softenings of brain tissue or hæmorrhages, abscesses, new growths, or traumatisms of the brain as causes of loss of speech, we can only, in order to account for the defects of which we are now about to speak, appeal to ischæmia (from irritative congestion, temporary thromboses, minute embolisms, or spasms of vessels) affecting the posterior part of the left third or of the second and third frontal convolutions; to "inhibition" variously brought about; or to other little understood causes leading to degradation of function in the same parts. Whatever the precise cause of the disability happens to be, this may—as with functional paralysis of limbs—persist for variable periods (hours, days, weeks, months, or even two or more years), and yet permit ultimately of a perfect restoration of function more or less rapidly brought about.

In these cases we have to suppose that from one or other of the causes above referred to the molecular mobility of the glosso-kinæsthetic centre is so reduced that it is unable to send down to the bulbar speech-centres incitations strong enough to call them into activity.

The principal causative or associated conditions may now be referred to in succession.

(*a*) *Irritative congestion or thrombosis following upon excessive literary work or worry, or as a result of exposure to cold.*—Trousseau recorded several interesting cases of this type,[1] and many others have since been published by subsequent writers. The case of his colleague, Professor Rostan, which Trousseau quotes, may be here reproduced as a typical instance of the kind of defect with which we are now concerned.

CASE 1.—"Rostan had been confined to his bed for a few days in the country in consequence of an injury to one of his legs, and, being alone there, he read all day and thus fatigued his brain. He was engaged one day reading Lamartine's 'Literary Conversations,' when he suddenly noticed that he did not clearly understand what he was reading. He paused for a short time, but on beginning again he made the same remark. Alarmed by this, he tried to call for help, but to his extreme surprise he was unable to utter a word. Believing himself to be struck with apoplexy, he then executed various complex movements with both his hands and with his uninjured leg, and thus found that he was not paralysed. He then rang the bell, and when a servant came into the room Rostan could not speak a single word, and yet he could move his tongue in every possible direction, and was perfectly aware of this singular discrepancy between the facility with which his vocal organs were moved and his inability to express his thoughts in words. He made signs that he wished to write, but on pen and ink being brought to him he was as incapable of expressing his thoughts in writing as in speaking. On a medical man arriving two or three hours afterwards Rostan pulled up his shirt-sleeve, and, pointing to the bend of his arm, clearly intimated that he wished to be bled. No sooner was the bleeding over than he was able to say a few words, although incoherently and imperfectly. Still some of these words clearly expressed an idea, whilst others seemed to have no relation to the principal idea. By degrees the veil was removed, he had a greater command of words to express his ideas, which also became more numerous, and at the end of twelve hours recovery was complete."

Long before anything definite was known about aphasia a very similar case was recorded by Scoresby Jackson[2] of Pennsylvania. The case is quoted by Bateman,[3] from whose work I take it.

CASE 2.—"The Rev. Mr. ——, aged forty-eight years, endowed with intellectual powers of a high order, of a sanguine temperament, with latterly a strong tendency to obesity, having exposed himself to the influence of the night air, received a check to the cutaneous perspiration. The next morning he awoke with a headache, and when a friend went into his room to inquire after his health he was surprised to find Mr. —— could not answer his questions.

"Dr. Jackson having been summoned, found the patient in full possession of his senses, but incapable of uttering a word; the tongue was not paralysed, but could be moved in every direction; all questions were perfectly comprehended and answered by signs, and it could be plainly seen by the smile on his countenance, after many ineffectual attempts to express his ideas, that he was himself surprised and somewhat amused at his peculiar situation. The face was flushed, the pulse full and somewhat slow, and to the inquiries if he felt pain in the head he pointed to his forehead as its seat. When furnished with pen and paper he attempted to convey his meaning, but he could not recall words, and only wrote an unintelligible phrase, 'Didoes doe the doe.' Forty ounces of blood were drawn from the arm, and before the operation was completed speech was restored, though a difficulty continued as to the names of things, which could not be recalled. The loss of speech appearing to recur in fifteen minutes, ten ounces more blood were abstracted, and sinapisms applied to the arms and thighs alternately. These means were speedily effectual, and no further return of the affection took place."

In each of these cases we see that the aphasia was associated with agraphia; and that the functional disability was not limited to the third frontal gyrus seems further shown by the fact that during recovery these patients also showed some degree of verbal amnesia or paraphasia.

(*b*) *Minute embolisms*.—Nothnagel[4] has called attention to cases of this kind in which patients suffering from valvular heart disease were suddenly attacked with aphasia, unattended by other symptoms, the loss of speech disappearing in the course of one or two days. Hammond[5] also mentions the case of a woman who, after repeated attacks of acute rheumatism, with marked aortic insufficiency, was seized with headache and vertigo whilst conversing with a friend, and whose speech was abruptly cut short. She was rendered completely aphasic, but recovered within forty-eight hours.

(*c*) *Spasm of vessels*.—Sometimes the temporary ischæmia which leads to aphasia is due neither to irritative congestion, temporary thrombosis, nor minute embolism, but seems to be occasioned rather by spasms of vessels. A good instance of this supposed mechanism leading to "recurring attacks of transient aphasia and right hemiplegia" has been recorded by E. O. Daly,[6] of which the following is an abstract:—

CASE 3.—A man, aged sixty-eight years, was suddenly seized, on March 11th, at 6 A.M., with aphasia and right hemiplegia. The attack lasted about five minutes and passed off as rapidly as it came on. He had suffered occasionally for years from gout, most frequently affecting his bladder. The first sound of his heart was found to be feeble; his arteries were thickened, and his urine was pale, with a well-marked trace of albumin, and a specific gravity of 1010. His temperature was normal and his pulse 80 per minute.

On March 13th he had two attacks of a precisely similar kind to the first, each lasting about half an hour.

On March 14th there were ten attacks, the shortest lasting about ten minutes, the longest almost an hour.

On March 15th there was one attack of ten minutes' duration, and three in succession with about a ten minutes' interval between, each extending over three hours.

After March 15th he remained quite free from an attack of any kind. The treatment consisted of perfect rest, a few grains of calomel, and a mixture containing small doses of iodide of potassium and citrate of lithia.

Dr. Daly says: "I saw this gentleman during several of these attacks. They came on perfectly suddenly without any premonitory symptoms and passed off as rapidly. He would suddenly say, 'I am all right again.' There was never any kind of convulsion. ..... When asked to put out his tongue he did so at once, and also closed his eyes and performed intelligently all actions asked of him. The aphasia was not complete, but the words he had at his command were limited and frequently misapplied; and in some of the attacks he was quite unintelligible. The hemiplegia was also partial, more marked in the arm than in the leg. He could move the right hand to a limited extent, and was able to grasp my hand feebly. There was also slight anæsthesia of the right side. ..... The attacks in every instance ended abruptly, the speech becoming instantaneously perfect. The power in his right side returned almost as rapidly, but after the long attacks a few minutes elapsed after the return of speech before he could use his arm and leg perfectly."

This is certainly a remarkable case, and it seems more explicable on the supposition that the recurring attacks were

[1] Lectures (translation by Bazire), 1867, p. 219.

[2] American Journal of Medical Sciences, 1829, p. 272.

[3] On Aphasia, Second Edition, p. 83.

[4] Ziemssen's Cyclopædia (Translation), vol. xii., p. 73.

[5] Diseases of the Nervous System, p. 129.

[6] Brain, July, 1887, p. 233.

due to recurring spasms of vessels, perhaps under the influence of gouty and uræmic poisons in the blood than in any other way. Brissaud refers to another case of recurrent aphasia with right hemiplegia which showed itself in a woman suffering from grave heart failure.[7] At each return of the cardiac asystole there was a corresponding return of the paralytic phenomena in the right limbs with transitory aphasia.

(*d*) *Narcotic and other poisons introduced from without.*—Many cases are on record in which poisoning by stramonium, belladonna, cannabis indica, tobacco, and opium have, among other symptoms, given rise to temporary aphasia, and sometimes to amnesia verbalis. References to cases of this kind, and also as to the effects of snake poison, will be found in Bateman's work.[8] Concerning the latter he says: "M. Rufiz stated at a meeting of the Paris Anthropological Society that he had seen a certain number of persons who had completely lost their speech in consequence of a bite from a serpent (Fer de lance); sometimes aphasia was produced instantly, and at other times some hours only after the bite; but, what was most remarkable, those who survived the poisoning remained permanently aphasic. Van der Kolk quotes the case of a gunner in the Dutch Indies who was bitten by a serpent called by the natives 'oeloer'; in a few minutes he became giddy and lost the power of swallowing, there was total loss of speech, but consciousness was unimpaired; death occurred four hours and a half after receipt of the injury." Wm. Ogle has also written an interesting paper[9] on this subject, showing that loss of speech often precedes loss of consciousness, and that in cases of recovery it may persist for weeks after other symptoms have disappeared. These facts seem to show that snake poison exercises a specially deleterious action upon the speech centres of the brain.

In addition to vegetable and animal poisons, however, it has been found that one mineral poison at least—namely, lead—may also produce aphasia. Thus, cases have been recorded by Heymann[10] and others showing that among the various nervous symptoms producible in different persons by lead poisoning aphasia is to be included.

(*e*) *Poisons engendered within the system.*—Under this head we have to include a very miscellaneous group of cases in which aphasia occurs as a temporary symptom in the course of certain specific fevers, in the puerperal state, in diabetes, Bright's disease, gout, &c.

The specific fevers in association with which aphasia is apt to manifest itself as a temporary symptom are typhoid fever more especially, and more rarely in typhus fever, small-pox, measles, and yellow fever. Numerous instances of this kind have been recorded.[11] It has also been met with in association with intermittent fever.[12]

Transitory aphasia may likewise occur in association with the puerperal state, and more frequently after than before delivery. It is then, in all probability, mostly due to minute thromboses. Instead of being transitory, however, it may be permanent and associated with thrombosis of the middle cerebral artery, a good instance of which, as it appears to me, has been recorded by Bateman.[13]

In diabetes, in Bright's disease, and in gout we also have poisonous or other products accumulating within the body, and in each of these conditions nervous symptoms of various kinds are apt to show themselves in different individuals, among which a transitory aphasia is to be included.[14]

In these different cases of poisoning (whether of extrinsic or of intrinsic origin) the precise mode of production of the aphasia probably varies a good deal. In some cases (1) the altered quality of the blood may favour the occurrence of small or temporary thromboses in the vessels of the cortical centres at fault; in others (2) the poisons circulating in the blood may lead to contractions of the small arterioles, thus temporarily cutting off more or less completely the blood supply of these same cortical centres; while in other cases it may be due (3) to the direct action of the various poisons upon the nerve elements of the cortical centres affected.

1. That the first mode of production of the transitory aphasia in these cases is a frequent one there can be little doubt. But such minute thromboses would, strictly speaking, belong to the category of organic causes, and the cases in which they occur are only liable to be confounded or classed with cases of functional disease by reason of the brief duration of the trouble to which they give rise, this brief duration being dependent upon one or other of two conditions; either (*a*) that the thromboses occur only in small vessels, so that the functional effects thus caused can soon be minimised by the opening up of collateral anastomoses; or else (*b*) by the fact that the small thrombosis is temporary, soon becoming resolved. These cases in which the thromboses are minute are connected, however, by insensible gradations with others where larger vessels are occluded and remain permanently blocked, so that the disabilities thus caused not only persist, but are of a much graver kind. And in all the previously enumerated causes of blood poisoning of intrinsic origin it is well known that thrombosis of larger cerebral vessels is apt to occur. In this way aphasia may be associated with hemiplegia, or hemiplegia may occur alone, and they may both persist long after convalescence from the original malady has been established.

2. Cases of transitory aphasia due to spasm of the arterioles would have a more distinct right to come into the category of functional cases, but with what frequency this mode of production occurs we are quite unable to say. Uric acid in the blood is said by Haig[15] to have a tendency to contract the small arterioles, so that this mode of pathogenesis may obtain in some of the cases of transitory aphasia occurring in gouty subjects—the case of frequently recurring aphasia recorded by Daly, and previously quoted, being perhaps a notable example.

3. Instances of transitory aphasia due to the direct action of poisons upon the nervous centres would have an equal right to be placed in the category of functional cases. We may suppose that the poison for the time being annuls or badly hampers the functional activity of one or more of the cortical speech centres, though what determines the noxious influence of the poisons upon these particular sets of nerve elements rather than upon others must remain as obscure in this as in other cases where general causes produce particular local effects.

In other classes of temporary aphasia about to be referred to the actual mode of pathogenesis would seem to be no less obscure, though in some of them it would be commonly said to be due to "exhaustion" of nerve elements following upon epileptiform discharges; or else, in still other cases, to an even more mysterious process known as "inhibition," to which some are very prone to appeal where explanation is difficult.

(*f*) *Before or after epileptiform convulsions.*—It is now a familiar fact that in cases of epileptiform convulsions of the Jacksonian type, whenever the convulsion begins with twitchings about the right side of the mouth (in right-handed persons), or with sensations and twitchings in the tongue, that aphasia may precede and follow for a more or less brief period the occurrence of each of such fits.[16]

Delasiauve[17] has recorded the case of an epileptic woman in which aphasia alternated with epilepsy. She would be aphasic for a week, when on the occurrence of a fit of epilepsy the power of speech would return, paralysis of the bladder, however, ensuing. After a time she would again lose her speech, and the same sequence of symptoms would recur.

Sometimes slight temporary loss of speech has been known to recur two or three times as early events in a chain of symptoms which have subsequently developed into those of general paralysis of the insane. I have recently met with two such cases, and subjoin a few details concerning one of them.

CASE 4.—A merchant, aged thirty-one years, had experienced a great shock and prolonged anxiety in connexion with his business affairs four years previously. This was followed by insomnia, which had become much worse during the last eighteen months.

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[7] Le Progrès Médical, Dec. 30th, 1893.
[8] On Aphasia, second edition, p. 273.
[9] St. George's Hospital Reports, 1868, p. 167.
[10] Berliner Klinische Wochenschrift, Band ii., 1865, pp. 195, 208, and 223.
[11] See A. Clarus, Jahrbuch für Kinderheilkunde, 1874, p. 369; R. Kühn, Deutsches Archiv für Klinische Medicin, 1884, p. 58; and J. R. Longuet, L'Union Médicale 1884, p. 717.
[12] M. E. Boisseau, Gazette Hebdomadaire de Médecine, 1871, p. 717.
[13] Loc. cit., p. 131. See also Poupon, Gazette des Hôpitaux, March 8th, 1866, for an analysis of twelve cases of puerperal aphasia.
[14] See Bernard and Féré, Archives de Neurologie, 1882, p. 370, and Dunoyer, Gazette Médicale de Paris, 1884, tome i., p. 461.
[15] THE LANCET, March 7th, 1896.
[16] Occasionally after an epileptic fit an abiding aphasia, without hemiplegia, may be produced, an instance of which has been recorded by Gairdner (Glasgow Medical Journal, May, 1866); whilst in another case recorded by Llewellyn Thomas (Brit. Med. Jour., Sept. 18th, 1875) a child of three and a half years became dumb, and also absolutely deaf, after an attack of convulsions.
[17] Quoted by Bateman, loc. cit., p. 269.

I saw this patient first on Feb. 14th, 1894, and was informed that one month previously there had been, without any apparent cause, loss of speech for a time. During this attack he could not get any words out, only making abortive attempts to do so. After about two hours this difficulty ceased rather suddenly, and afterwards he felt even better than he had been before.

Again, five days before he came to me he had another slight attack of the same kind, which lasted for about half an hour. No cause could be assigned for this attack, except that the previous night had been an extra bad one.

On Feb. 24th, after a little extra work in his office, he had another attack of loss of speech (though the loss was less absolute than before) which lasted about one hour. Up to this date there was no paresis of the limbs and no mental symptoms, though there was very slight thickness of speech during the intervals between the attacks.

This patient improved greatly for a time in all ways; but early in April he began to have difficulty in writing letters—omitting words or repeating and spelling them wrongly. By the end of April he became more restless, over-exerting himself, and would not be controlled in this respect. By the middle of May he began to develop delusions of grandeur, which rapidly increased; and on May 26th he was sent to an asylum in a very excited state and full of delusions of all kinds.

It should be borne in mind, likewise, that a temporary aphasia may occur in the course of general paralysis of the insane, as an immediate sequence of one of the so-called "congestive attacks" to which these patients are liable.

In other cases, as will be seen presently, a different form of speechlessness—namely, "hysterical mutism"—is found to follow some attacks of convulsion of an hysterical type.[18]

(g) In association with insanity, catalepsy, and ecstasy.—A condition of mutism of more or less duration is not at all uncommon in patients suffering from chronic dementia or from melancholia. It is often a lack of will to speak which leads to taciturnity extending over long periods, though various other forms of speech defect are also met with among the insane.[19]

Not unfrequently this persistent mutism is the result of some hallucination or delusion. Speaking of this class of cases Séglas says:[20] "Often it is a special hallucination which is the origin of the patient's mutism. He hears, for example, an imperative voice which forbids him to speak; and in spite of all entreaties he keeps silence. In other cases the mutism is the consequence of a delusional idea, which, moreover, may vary in character. Sometimes it is an idea of unworthiness, of humility; the patient believes himself fallen from his position as a man and unworthy to communicate by speech with his fellow creatures. Sometimes it is an idea of expiation; he keeps silence to expiate the imaginary sins that he reproaches himself with. In other cases it is the fear of hurting some one—of compromising, by speaking, some one that he loves—that makes him keep silence. A patient under the care of M. Falret, who had shut himself up in absolute mutism, avowed at intervals that it was for fear of compromising his son by speaking. Sometimes this mutism has its source in an idea of a hypochondriacal nature; if the patient does not speak any more it is because he has the idea that he has no longer a tongue or that his larynx is destroyed."

Many years since an instance came under my own observation in which a semi-demented man had not uttered a single word for several years; he then had a slight attack of pleurisy, and, while suffering from the pain of this affection, he talked pretty freely for several days, answering all questions addressed to him. On another occasion, while suffering from the pain of toothache, he spoke and answered questions for a time, but after the extraction of the tooth at once relapsed into his usual silent and stolid condition. Bateman says that Brierre de Boismont has recorded "the clinical history of a lunatic who had not spoken for thirty years, and who, when perseveringly interrogated, gave a kind of grunt and ran away. About fifteen days before his death he regained the use of speech, and answered perfectly well all the questions put to him."

No mention is made as to the ability to write possessed by the patients above referred to, but in a case cited by Clouston this additional detail is given. This example is instructive also because it illustrates the difficulty of discovering the reason for the silence that exists in many of these cases of what we may call *pseudo-mutism*. Clouston says[21]: "I have a man in the asylum, D. T. K., who for ten years has never spoken a word, but who, I may say, in all other respects behaves sanely, showing no symptom of morbid pride or suspicion. He is about the best joiner we have. We know he has a delusion which prevents him speaking, but what it is we can't find out. If he wants instruction about his work he writes, but nothing will induce him to write why he won't speak."

In reference to catalepsy and ecstacy it is only necessary to say that during the continuance of either of these states the patient remains completely mute, probably from the mere suspension of the will to speak. These cases, in fact, as well as those previously referred to, where the speechlessness is attributable to a lack of will to speak owing to the existence of some determining hallucination or delusion, may well constitute a category apart under the name of "pseudo-mutism."

(h) From fright and other powerful emotions.—Many cases both of temporary aphasia and of mutism have been recorded as resulting from these causes. One cited by Kussmaul[22] is as follows:—

CASE 5.—A girl, aged thirteen years, was run over by a wagon. Although she escaped with some slight scratches she became speechless, and remained so for thirteen months. After various methods of treatment had been tried without success Dr. Wertner at last gave her bromide of potassium. One day, immediately after taking the medicine, she threw herself into her mother's arms and whispered, "Mother, I will speak again." After a few weeks she had entirely regained the use of language.

It should always be borne in mind that in the case of an accident the importance of the mental shock and its consequences often far transcends, as in this instance, the mere physical injury.

Another case of this type has been recorded by Popham[23] which is worth reproducing here.

CASE 6.—A boy, aged fifteen years, received a kick from a cow between the nose and the forehead which stunned him, but left apparently at the time no other injury than a few scratches and slight epistaxis, so that he walked after it some miles to a fair. On the fourth day he was seized whilst at work with vertigo and loss of speech, his hearing, taste, and sight, as well as deglutition, remaining unaffected. A variety of remedies, amongst others mesmerism, were tried, but without any benefit. He continued for twelve months as servant to a medical man, although totally mute, when he got extensive inflammation of the anterior part of the scalp, followed by suppuration, and regained his speech as suddenly as he had lost it eighteen or nineteen months before.

But mere emotion—apart altogether from traumatism—may produce very similar results. Thus Todd[24] refers to the case of a man, aged about fifty-five years, of an irritable temperament, who in a very animated conversation became excited to such a degree that his power of speech was completely lost. There was no paralysis, and the mental faculties were unaffected. He continued in this condition for about one week, but soon afterwards the power of speech had completely returned.

(i) Reflex irritation from neuralgia, intestinal worms, &c.—The pathology of these cases is very obscure, but that such associations are at times met with cannot be denied.

Bateman[25] refers to three cases in which temporary loss of speech occurred in association with facial neuralgia, and also to three other cases where the presence of worms in the intestine was associated with loss of speech which disappeared more or less quickly after their expulsion.

Where a temporary aphasia has been associated with a fæcal accumulation in the large intestine, which has disappeared with its expulsion, instances of which have been recorded by R. Jones[26] and by M. Mattei,[27] the cause cannot in all probability be ascribed to mere intestinal irritation. Such cases are rather to be explained as belonging to group *(e)*—"Poisons engendered within the system." They may be supposed to result from the effects of auto-intoxication upon the brain, due to the absorption of alkaloidal poisons from and formed in the overloaded intestinal canal.

(j) By hypnotic suggestion.—Charcot and others have been able to produce typical "hysterical mutism" in some hysterical patients who are capable of being hypnotised. Referring to this subject Charcot[28] says: "I ought to tell you how the phenomena of mutism may be artificially produced. The patient being plunged into the somnambulic stage of hypnotism, you comence by conversing with her for a few minutes, then gradually you approach closer and closer to her, and finally pretend neither to hear nor to understand her. She makes further efforts to speak louder, but you

[14] Megrim is another functional periodical affection which is occasionally associated with temporary speech defects, though for the most part they are of an amnesic rather than of an aphasic type.

[19] See Séglas: Les Troubles du Language chez les Aliénées, Paris, 1892. [20] Loc. cit., p. 29.

[21] Clinical Lectures on Mental Diseases, 1883, p. 280.

[22] Loc. cit., p. 799.

[23] Quoted by Bateman, loc. cit., p. 258.

[24] Clinical Lectures on Diseases of the Brain, p. 278.

[25] Loc. cit., p. 270.

[26] Edinburgh Medical Journal, 1869, p. 281.

[27] Gazette des Hôpitaux June 15th, 1865.

[28] Diseases of the Nervous System (Sydenham Society), vol. iii., p. 372.

continue to practise the same ruse, and appear not to understand any better than before. Then it happens that the voice of the subject becomes progressively lower, and in the last stage aphonia becomes complete, and there is an impossibility of articulation. Artificial mutism obtained during the somnambulic period persists as you see in the waking state. I dare not allow this experiment to be prolonged too much, for I have remarked on many occasions that hysterical symptoms artificially produced during hypnotism are more difficult to be made to disappear in a waking state in proportion as they are allowed to persist for a longer time."

(*k*) *Hysteria.*—The cases of temporary speechlessness that occur in hysteria belong almost solely to the type which I have previously referred to as "*hysterical mutism.*" These cases are now commonly known by that name, though they were formerly included, with others, under the more general head of "functional aphasia."

The name "hysterical mutism" was first given to such cases by Revilliod, of Geneva, in an important memoir[29] dealing with this subject, though both the condition and the name were subsequently made more widely known by Charcot[30] in his lectures, as well as by a collection of twenty cases published by his assistant, M. Cartez.[31] Subsequently another series of cases was recorded by Bock,[32] of Berlin, and a still more important collection of eighty cases by Natier,[33] of Bordeaux.

The subject has also been recently considered by Wyllie,[34] who has thrown further light thereupon, and has lent his support to a view first advanced, I believe, by Liouville and Debove,[35] to the effect that hysterical mutism is only a rarer and more aggravated form of a condition which is familiar enough as hysterical aphonia. This doctrine was also adopted by Charcot. As Wyllie[36] says, Charcot shows "that there are many features shared in common by hysterical aphonia and hysterical mutism. They occur in the same type of patients, are produced by similar exciting causes, and are not unfrequently found to alternate with each other in the same patient, the aphonia in some cases passing into mutism, and the mutism in others passing into aphonia. Obviously the mutism is the more severe condition of the two. It implies absence even of the power of whispering, as well as that of speaking aloud."

Some of the leading peculiarities of hysterical mutism are these. Its onset is generally sudden, and often after a fright or some strong emotional disturbance. Sometimes it follows an hysterical seizure, either with or without paralysis of limbs. At other times it occurs without assignable cause, or it may be induced, as already stated, in some hypnotised persons by suggestion. The subjects of this disability are completely mute—presenting in this latter respect a notable contrast to ordinary aphasics, who so frequently make use of recurring utterances or articulate sounds of some kind. The intellect seems unimpaired, and they are able freely to express their thoughts by writing.[37] Though the common movements of the lips, tongue, and palate are preserved, these parts (constituting the oral mechanism) are unable to act in the particular combinations needful for speech movements, in association with the other combinations of muscular action pertaining to the vocal mechanism. Some of the muscles of the larynx, however, are often found to be more or less paralysed, though the particular muscles involved have varied in different cases. Sometimes it has been the crico-thyroids alone, or these with the thyro-arytenoids; in others the arytenoids, or even one only of the adductors has been at fault; and Cartez adds[38] that in certain cases "one may see variations of the laryngeal troubles supervene in the course of the malady without any modification in the mutism."[39] There is also often more or less complete anæsthesia of the larynx and of the pharynx.

[29] Revue de la Suisse Romande, 1883.
[30] Progrès Médical, 1883.
[31] This paper, as well as Charcot's lecture, is most accessible to English readers in the latter's Clinical Lectures on Diseases of the Nervous System, vol. iii. (Sydenham Society), 1889. See also Charcot's "Leçons du Mardi," 1888-89. p. 247.
[32] Deutsche Medicinische Zeitung, December, 1886.
[33] Revue de Laryngologie, d'Otologie, et de Rhinologie, Nos. 4, 5, 8, and 9, 1888.
[34] The Disorders of Speech, 1895, p. 41.
[35] Progrès Médical, Feb. 26th, 1876.
[36] Loc. cit., p. 45.
[37] Taken alone these latter two characters are by no means such important diagnostic features as was supposed by Charcot and Cartez (loc. cit., p. 431), since they are met with also in complete aphemia due to a subcortical lesion.
[38] Loc. cit., p. 431.
[39] This was so in Case 7 quoted below.

Sometimes hysterical mutism occurs in association with many hysterical stigmata; at other times it may be almost the sole manifestation of this neurosis.

Recovery may occur suddenly, perhaps after a fit or a recurrence of some strong emotion; or it may be more gradual, under treatment; and in some of the latter cases there may be a sort of stammering articulation for days, or even weeks, before speech is completely restored.

In illustration of the condition generally, and of the very important fact of the alternation of aphonia and mutism that exists in some patients—which of itself helps to show that the two conditions, if not different degrees of the same affection, are at least very intimately related—the two following cases may be quoted from Cartez,[40] the first of them having been recorded by Thermes,[41] and the second by Liouville and Debove.[42]

CASE 7.—A woman, aged twenty-one years, on Feb. 15th, 1876, after exposure to damp cold—at least, according to the patient's account—was taken with a fit of coughing, and soon after the voice became modified both in quality and intensity. Laryngoscopic examinations (by Isambert) did not reveal any organic lesion or inflammatory condition, and the diagnosis was "paralysis of the vocal cords from defective innervation of the muscles of the larynx, and particularly of the crico thyroids." Consequently, the induced current was advised and applied by Isambert himself. But instead of the usual amelioration, as expected, the aphonia rapidly developed into a mutism. Many varied medicaments were employed, but without effect.

During treatment at the thermo-resinous baths we had the opportunity of examining the patient, and certain objective and subjective symptoms caused us to suspect the case to be one of mutism grafted on to hysteria of a non-convulsive form; or rather, a case of hysteria the manifestation of which had invaded the laryngeal region and particularly the tensor muscles of the vocal cords.

The laryngoscopic examination then made (February, 1877) by Krishaber revealed that the left vocal cord was immobile, and that the free border occupied the median line and divided the glottic space like the perpendicular in an isosceles triangle. The corresponding arytenoid did not perform movements of rotation on its axis. The left vocal cord seemed shorter than the other, because of its laxity and because it was hidden by the arytenoid. The pharynx was slightly hyperæmic.

Hydrotherapy was prescribed. At the first application there was a cry of surprise; the mutism was changed into incomplete aphonia. After a dozen local and general douches, the aphonia gradually disappeared, and a fortnight after the first douche the voice resumed its normal character and intensity.

Under the influence of a fall a convulsive attack occurred, on coming out of which the voice was again lost and the mutism again became complete. This happened in 1877.

In February, 1878, the mutism was still complete. Hydrotherapy, as on the first occasion, produced the same result. The patient cried out and instantly regained her voice, but only for a moment. However, incomplete aphonia succeeded the mutism. She was able to whisper, the words being weak and low, but she could be well understood. Amelioration progressed to cure, and the patient at the time the case was published had not relapsed for ten months.

This is a particularly interesting case, not only because of the transitions that were shown between aphonia and mutism, but because of the varying condition of the larynx and the relapse after a convulsive attack. The next case is also an interesting and important one.

CASE 8.—The patient was a girl, aged eighteen years, hysterical, but generally of good health. Her mother had attacks of hysteria major. A sister, thirteen years old, had frequent attacks, and for two months she had been affected with trembling, which several medical men had regarded as hysterical chorea. The father was very nervous.

Until the last few years the hysteria had only been manifested by incomplete attacks. For eighteen months the patient had been painfully impressed by the quarrels and violent scenes between her father and mother, and it was to this cause that she—probably with reason—attributed her symptoms. About this time, in fact, she became aphonic, not being able to speak above a whisper, and in the course of two months the aphonia grew into mutism. In the house where she lived they named her "the mute." She communicated with those around her by means of a slate, which she habitually carried. The patient came several times into hospital. All those who examined her were agreed in the diagnosis of hysterical paralysis of the vocal cords. Different methods of treatment were adopted without success.

On Nov. 10th, 1875, she was taken to the Hôtel Dieu. She had no globus hystericus, no hemianæsthesia, and no affection of the organs of special sense. The ovaries, especially the left, were tender on pressure; but, briefly, apart from the laryngeal troubles and the ovarian pain, the patient presented nothing abnormal.

The laryngeal paralysis was not simply a paralysis of movement, it was also a paralysis of sensation. There was not the least pharyngeal reflex. Laryngoscopic examination by Dr. Moura revealed a paralysis of the vocal cords; these made an almost imperceptible movement when the patient tried to emit a sound.

Pressure over the ovary brought on attacks of dry cough and a few stifled cries. The patient was able to articulate these words in an almost imperceptible voice, "You hurt me." The following day the compression was continued (from five to ten minutes each time), and intonation became more and more distinct; she first ceased to be aphonic, then to be mute. She became able to speak, though in a low voice, hissing out her words.

Two cases may also with advantage be quoted here which

[40] Loc. cit., pp. 422 and 423.
[41] La France Médicale, 1879, p. 290.
[42] Le Progrès Médical, Feb. 26th, 1876.

were recorded by the late Dr. Ernest Jacob.[43] They will serve amongst other things, as instances of the affection occurring in males, as well of its ready cure under the influence of ether.

CASE 9.—"A man, aged about fifty years, applied for relief at the out-patient department of the Leeds Infirmary, bringing a paper on which was written: 'I have pain in my shoulder; I can hear, but not speak.' The history, obtained subsequently, showed that he had had fits in infancy, but enjoyed good health till he was thirty-four years of age, when after monetary losses he began to show signs of mental instability, violent temper, &c., and when agitated was unable to speak. He gradually became perfectly dumb, though he retained for some years the power of saying 'yes' and 'no.' For the last five years he had not spoken, communicating with his wife by means of signs and writing, but understanding perfectly what she said. He seemed quite intelligent, could cough and blow out a candle. He resisted laryngoscopic examination, but I was able to ascertain that the cords could be approximated, and occasionally a hoarse sound uttered. There was no attempt at articulation, though he willingly made attempts when urged to do so.

"The pain in the shoulder was found to be due to dislocation. No account could be given of this, except that six days before he had wakened in the night and found his arm in pain. (In all probability he had had an epileptic fit and fallen out of bed.) Thinking to investigate the aphasic symptoms later, I asked my surgical colleague, Mr. W. H. Brown, to reduce the luxation. To facilitate this ether was administered, and on recovery from the narcotism he began to speak clearly and volubly, evidently much pleased at recovering his power of speech, and determined to make up for lost time.

"Some weeks after, when I saw him again, he was speaking well. I wish to point out here that there was no wilful dumbness, such as is not uncommon in cases of insanity. The man was greatly pleased at recovering his power of speech; nor was there the entire loss of phonation which obtains in functional aphonia, though there was great want of tension of the vocal cords. The patient was not morose or melancholic, though occasionally giving way to passion."

This case is remarkable on account of the rapid and complete recovery of speech, although the dumbness had existed for five years; that is, there was none of the stammering or hissing articulation that sometimes exists for a time when hysterical mutes first begin to regain their speech. In the next case the mutism had been of very brief duration.

CASE 10.—"A healthy-looking miner, aged thirty-four years, applied on Jan. 13th, 1890, suffering from slight hoarseness, and his cords were injected. He gave a history of having had some epileptic fits eight years ago (six in all), and at one time he had been intemperate. Some zinc chloride was applied to his larynx and a pine-oil inhalation prescribed. A week later he appeared with a paper on which was written: 'Five days ago I lost my voice. I feel as well as ever I did, but I have not been able to talk, and I cough.'

"Inquiry showed that he had been quietly talking with some friends on no very exciting topic, feeling rather hoarse, when he was suddenly seized with dumbness. His larynx was now rather difficult to examine, but the cords could be approximated without tension and an occasional hoarse grunt elicited. After a few trials he managed to utter one or two vowel sounds. Remembering the effect of the anæsthetic on the former case I had ether administered. After he had taken one or two breaths the inhaler was removed and he articulated 'Yes' in answer to a question, and after recovery from narcotism could talk freely. He remained an out-patient for a few weeks, but there was no return of the dumbness."

Here the mutism was not absolute, and being only of brief duration the principal interest of the case lies in the prompt restoration of speech after the inhalation of ether.

In the instances cited examples have been given of the recurrence of mutism on two or three occasions. At times, however, the attacks recur again and again, and the duration of each attack is then often very brief. Thus Delasiauve[44] has related the case of a woman who for three years was at each menstrual period affected with mutism and partial paraplegia, being at these times only able to make herself understood by signs. Bateman[45] records an interesting case of his own occurring in a young man who in the course of six months had nine attacks of mutism, most of which lasted only a few days, though one of them remained for over six weeks. Each attack began with sudden pain in the occiput and nape of the neck of an extremely severe character, and the pain was associated with contraction of the muscles at the back of the neck. A still more remarkable case has been recorded by Hun,[46] in which frequently recurring attacks of mutism were generally associated with deafness or blindness, one or both, these disabilities often ceasing after an attack of hysterical convulsions.

During the present year I have also had under my care a patient who had suffered from an extraordinary number of attacks of mutism extending over a period of more than eighteen months. They occurred in a sailor who had not hitherto suffered from nervous symptoms and had previously led an active life in all parts of the world. He was sent to me by Dr. Allan Mahood of Appledore, North Devon, and the following is an abstract of notes received from him and of others taken whilst the patient was under my care at the National Hospital for the Paralysed and Epileptic.

CASE 11.—The patient, aged thirty-one years, had for a time been out of work, worried, and been having insufficient food, when, on July 13th, 1895, he had in the evening a sudden attack of "shaking," characterised by small, rapidly repeated contractions of the muscles of the face, body, and limbs, lasting some hours, but without loss of consciousness. Under treatment and with rest in bed he improved much during the next week, but on July 20th a political procession went past his house, cheering wildly, after an election. This awoke him and gave him a great fright, resulting in complete loss of speech for one hour, together with much twitching of the muscles on the right side of the face.

During the next month he had very many brief attacks of complete mutism. He was rarely many days without one, and sometimes had two or three on the same day.

On Aug. 13th irregular spasmodic contractions of the limbs occurred without loss of consciousness, lasting off and on for nine hours.

On Sept. 4th there were violent convulsive movements of the shoulders, arms, and upper half of the trunk for one and a half hours

During the next six months he had similar attacks lasting from ten to fifteen minutes, several times daily. The "shaking" was mostly on the right side of the body. He generally lost his speech during the attacks—though on several occasions the mutism lasted for a week at a time, when he communicated with others only by writing and signs. Sometimes he has lost his speech without having an attack of "shaking"—especially under the influence of excitement from any cause. He had a good deal of worry during this time.

On May 8th, 1896, he seemed quite well. There had been no return of the old symptoms during the last month. He went, therefore, for a month's drill with a corps to which he was attached, and after that was about to resume his sea-life, when suddenly his old symptoms returned, and he continued to have "shaking" fits and frequently recurring attacks of mutism up to the date of his entry, under my care, into the National Hospital for the Paralysed and Epileptic on Jan. 13th, 1897. In the early days of this latter month he had the most violent attack of all. He had to be restrained for four hours. He did not hurt himself, but bit his brother severely in the face. Three days before admission he lost his speech entirely on being told he was coming to the hospital, and did not regain it till twenty-four hours after admission.

On admission he was found to be completely mute, though he made a few inarticulate noises on attempting to speak. He was perfectly sensible in all respects—could understand everything said to him quite readily and write his answers on a slate, as well as understand quite well what was written by others. There was no motor or sensory paralysis. His gait was normal. There was some facial overaction on attempting to speak. The eye movements, pupils, and optic discs were normal. There was no contraction of the visual fields.

During the first six weeks of his stay in the hospital he was treated with tonics and tepid needle baths; then with sulphur baths together with bromides and other drugs internally. In this period he had only one slight "shaking" attack two days after admission, and nothing notably wrong apart from some slight tremors about the hands and face at times was noticed, except that he continued to have frequent attacks of mutism lasting for some hours or even a day or two.

I then left instructions that during the next attack he should be put under the influence of ether, and on March 2nd I received a report from the resident medical officer (Dr. W. J. Harris) announcing that on the previous afternoon the patient, after some slight difference with another patient, had again suddenly lost his speech. When seen about half an hour afterwards he could not make any sound, not even "Ah." His larynx was examined again and found to be, as before, very hesitating in adduction, with never complete closure of the rima glottidis. The administration of ether was then commenced. "He took it quietly for about three minutes, until just beginning to feel its effects, when he suddenly bounded off the bed, upset everything around, fought wildly, and was with difficulty subdued—uttering no sound, however. He then lay quiet till let go, when he suddenly attacked us again, and when again subdued he began to talk quite well, declaring he could not help it, &c."

Though he remained in the hospital subsequently for over five weeks he had no further attack of mutism and only one threatening, after some slight annoyance. On April 11th he discharged himself, against advice, on the plea that another patient was noisy at night.

We must now look a little more closely into the pathogenesis of mutism.

From the point of view of the physiology of the two conditions aphonia and mutism, Charcot attempted to draw too sharp a distinction. He adopted the doctrine that has been taught by Marey and other physiologists, that whispered speech is the product of the oral division of that mechanism alone, and that the larynx takes no part in its production. According to Charcot, therefore, aphonia (in which the power of whispering is preserved) is a result of a partial paralysis of the adductor muscles of the larynx; while as to hysterical mutism, he writes. "If the individual suffering from the affection is unable to whisper, it is not because he is aphonic, or rather because his larynx does not vibrate; it is not because he has lost the common movements of tongue and lips—you have seen that this patient was perfectly able to blow and to whistle; it is because he lacks the ability to execute the proper specialised movements necessary for the articulation of words. In other terms he is deprived of the motor representations necessary for the calling into play of articulate speech."

Wyllie, however, contends (and he is supported by the opinion of Michael Foster) that the larynx does take part in whispering, and that there can be no speech without the

[43] Brit. Med. Jour., Sept. 13th, 1890.
[44] Journal de Médecine Mentale, 1885.
[45] Loc cit., p. 136.
[46] The Quarterly Journal of Psychological Medicine, January, 1868, p. 119.

coöperation of both the oral and the laryngeal mechanisms. He consequently holds that "the disablement of either the one mechanism or the other may produce mutism." In opposition to Charcot and Natier, therefore, who believe the oral division of the speech mechanism only to be at fault in hysterical mutism, Wyllie maintains that whilst this may be so in some cases, in a second group it is the laryngeal division of the speech mechanism which is at fault; and in a third set of cases both oral and laryngeal mechanisms are simultaneously disabled.[47] He refers[48] to various cases in Natier's list in support of his opinion.

I formerly thought that these cases of mutism were instances of complete aphemia, dependent upon a functional defect in the outgoing fibres just below the left third frontal gyrus,[49] because cases of sub-cortical defect, where there was no damage to either of the word centres, at that time seemed to me alone capable of producing the particular combination of symptoms met with in hysterical mutism. And, as in hysteria the afferent fibres in the "internal capsule" appear to be so frequently affected in the production of hemianæsthesia, there seemed no valid reason why the same kind of disability (whatever its nature) might not at times affect some of the bundles of fibres proceeding from, rather than going to, the cortex. Though this was the hypothesis formerly advanced by me, I always recognised that it would have been more satisfactory if one could have supposed that in hysterical mutism portions of the cortex itself were at fault. The bar to this explanation, however, was the undiminished ability to write which these patients displayed and the supposition that an affection of the glosso-kinæsthetic centre would cause some mental impairment of which there was no trace in hysterical mutism.

An examination of the records of actual cases of sub-cortical lesions, and the finding that in some of them where there was destruction of the first part of the geniculate fasciculus and also of the commissure connecting the left with the right third frontal convolution, a mutism was produced almost exactly similar to that met with in the hysterical cases, seemed to be a further justification of my previous view.

On the other hand, a remarkable case recorded by Guido Banti has since convinced me that the symptoms may not be different even when an organic lesion exists in the posterior part of the left third frontal convolution itself, so long as it is absolutely limited thereto, and leaves the cheiro-kinæsthetic centre uninjured. This very important case, which I have previously quoted,[50] shows that in some individuals (besides the preservation of ability to write) the destruction of Broca's region alone may not interfere with the general intelligence any more than does a lesion in the bulbar speech centres or in the internuncial fibres between them and the third frontal gyrus. But if such may be the case with regard to organic lesions in Broca's region we may all the more readily admit that a similar absence of agraphia, and a similar preservation of intelligence may result from a functional disability affecting Broca's region. We have seen, in fact, that the existence of such a disability was Charcot's explanation of the condition. He considered hysterical mutism to be an instance of pure "motor aphasia," resulting from a functional trouble in Broca's region.

This, however, is by no means an adequate explanation of the condition. As we have seen, Charcot too sharply distinguishes hysterical mutism from aphonia, and believes mutism to depend only upon a disorder involving the cortical centre for the oral division of the speech mechanism. The probabilities, however, are against this view, as Wyllie has shown. Aphonia and mutism are most intimately related, differing in degree only; and the oral and vocal speech mechanisms are probably concerned in all speech, whether it be sonorous or whispered. Still we must suppose that the cortical speech centre in Broca's region, which I name the glosso-kinæsthetic, is, in reality, composed of two parts most intimately related, both functionally and structually—one of them being the centre for the oral mechanism, and the other the centre for the vocal speech mechanism.

At first it was thought, from the experiments of Semon and Horsley[51] upon monkeys, that the adductors of the larynx were alone represented in the cortex, and that in the anterior part of the foot of the ascending frontal; but Risien Russell[52] has since ascertained that the abductors are also represented in a region slightly removed therefrom. In answer to a query of mine Russell writes:—"In the dog and cat the abductor centre is situated in front of, and a little above, the level of the adductor focus, so that probably the same holds good for man; but I do not wish to commit myself on this point till I have had more opportunities of ascertaining the relative position of these two centres in monkeys." He, however, confirms the statement of Semon and Horsley that there is a complete bilateral representation of the laryngeal movements in the cortex, so that destruction of the centre on one side will not produce paralysis of the muscles of the opposite side of the larynx, seeing that they can still be called into activity by the uninjured centre in the opposite hemisphere.

If a similar bilateral representation of the laryngeal movements concerned with speech exists in man[53] it would follow that to account for hysterical aphonia, characterised by paresis of the laryngeal adductors, we must suppose that the corresponding centres of both hemispheres have been simultaneously affected, and somewhat degraded in functional activity.

As I have already pointed out, however, it has been shown that hysterical mutism is intimately related to aphonia; and therefore mutism might be supposed, even for this reason alone, to be also due to a bilateral affection of the cortex. But we shall now see that there is another reason pointing in the same direction. Charcot's explanation of hysterical mutism does not account in any way for the fundamental difference that exists between it and ordinary simple aphasia. The subject of the former affection is, as we have seen, absolutely mute, and has no "recurring utterances" of any kind. It is commonly supposed that in ordinary aphasia, due to a lesion in Broca's convolution, the recurring utterances are brought about through the instrumentality of the right hemisphere. The same thing would, therefore, doubtless occur in the functional affection if the left third frontal convolution were alone involved, but as instead there is absolute dumbness, we are, I think, on this account bound to assume that in this disorder, as in aphonia, there must be a simultaneous affection of the posterior part of the right as well as of the left third frontal convolution.

Charcot does not attempt to explain the above-mentioned important difference between the two affections. As I have already indicated, he regards hysterical mutism as due to a functional defect in a part of Broca's centre in the left hemisphere—namely, the part having to do with the oral mechanism for speech. The only additional remark that he makes on this subject occurs towards the close of his lecture, where he says: "It is in the grey cortex of the cerebral hemisphere that we must seek for the dynamic lesion whence emanate the symptoms in question, and the mechanism that is to be invoked in such conditions is none other than that which acts in the production of psychical or, if you like it better, mental paralysis." This is rather vague, and introduces no further explanation of the pathogenesis of the condition. Will, except in regard to speech, does not seem to be defective or hindered in its manifestation, and we have evidence also that in these patients the other word-centres—namely, the auditory, the visual, and the cheiro-kinæsthetic—are in a condition of unimpaired activity.

Thus the clinical differences between simple aphasia and hysterical mutism force us to the same kind of conclusion as to the pathogenesis of the latter affection, as that to which we are also led by a consideration of the intimate relations existing between it and hysterical aphonia. It impels us to believe in the existence of a bilateral cortical disability in Broca's region in each of these affections, though varying in intensity in the two cases. This explanation, I believe, has not hitherto been adduced for either of these affections.

It will be observed that hitherto I have neither adopted nor definitely referred to the hypothesis of Wyllie as to the existence of certain subdivisions of what he calls Broca's convolution. I say "what he calls Broca's convolution," because instead of limiting this region, as is

[47] His views as to the cortical localisation of these mechanisms will be subsequently considered.

[48] Loc. cit., p. 437.

[49] See Brit. Med. Jour., Nov. 5th, 1887.

[50] THE LANCET, April 9th, 1897.

[51] Philosophical Transactions, vol. clxxxi., 1890, p. 187.

[52] Proceedings of the Royal Society, vol. lviii., 1895, p. 237.

[53] This cannot, however, with certainty be considered to follow from the fact that experiments upon lower animals show that common movements of the larynx are bilaterally represented.

customary, to the foot of the third frontal convolution, Wyllie seeks to include under it also the foot of the ascending frontal and the foot of the ascending parietal convolutions.[54] He suggests that in these two latter sites the "executive cortical motor mechanisms" concerned with speech are to be found—comprising a "centre for phonation" and a "centre for the oral articulative mechanism"; while in the foot of the third frontal are stored up the "guiding psycho-motor images for spoken speech," or, in other words, what I have termed "glosso-kinæsthetic impressions." These views have been accepted and still further elaborated by Elder,[55] who also reports one case which he thinks "goes a long way to support the hypothesis of Wyllie."

Now in regard to the impressions registered in the foot of the third frontal convolution it would appear, as I have said, that Wyllie's "guiding psycho-motor images" correspond with what I term kinæsthetic impressions, and further that these impressions resulting from speech movements must partly correspond with impressions from the oral and partly from the vocal subdivision of the speech mechanisms. These, according to my view, are the guiding sense impressions which (in conjunction with auditory word-images) act directly upon, and are capable of evoking the proper activity of, the bulbar motor centres. I therefore do not believe even in the existence of the "cortical executive motor mechanisms" for speech which Wyllie and Elder assume to exist at the bases of the ascending frontal and ascending parietal convolutions; and further I consider that the reasoning which induced Wyllie to suppose that such centres might be thus situated is of itself open to very grave objections.

He seems to have been guided altogether too much by the results obtained by experimental physiologists (Ferrier, Semon, Horsley, and others) upon monkeys and dogs, and not to have kept distinctly in mind that the movements of the larynx resulting from stimulation of the cortex in these dumb animals could not have been such movements as were concerned with speech, though they might have been the reproductions of much less specialised movements of the vocal cords (adduction and abduction) associated with respiratory acts; and, again, that the movements of the lips, and tongue similarly induced in these dumb animals could not afford any evidence as to the site of the "oral articulative mechanism," although they would serve to determine the seat of registration in such animals of the impressions resulting from the common movements of these parts concerned with biting, mastication, &c.

The very fact, however, that such common movements are registered in these sites (if it may be considered to hold good for the human subject) would of itself lead us to look elsewhere for the registration in man of the multitudinous impressions derived from the highly specialised movements concerned in speech—for instance they might be found in the contiguous foot of the third frontal convolution. And, as Wyllie himself admits[56] (though in a rather hesitating way), the clinical evidence points to the importance of the foot of the third frontal convolution, and not to the bases of the ascending frontal and parietal convolutions, as the region most concerned with the production of speech. It ought to be almost superfluous to enforce the point that it is upon clinical evidence alone that we must rely for the localisation of speech centres, and not upon the "conclusions of the experimental physiologists" drawn from experiments upon dumb animals.

An attentive study of the case above referred to that has been recorded by Elder, seems to me to show that the lesion was an essentially sub-cortical one, and that all the defects in articulation met with could have been produced by damage to some of the pyramidal fibres proceeding from the foot of the third frontal convolution, even though the lesion also destroyed portions of the bases of the ascending frontal and parietal convolutions.

No real evidence is therefore forthcoming in favour of the hypothesis of Wyllie; and that the distinction which I have dwelt upon between the common movements of the lips, tongue, and palate, and the common movements of the vocal cords, as contrasted with the highly specialised combinations of movements of these parts concerned in speech, is a perfectly valid and important one is shown by the fact that in hysterical mutism though the latter movements are impossible the common movements of the lips, tongue, and palate are quite unaffected—just as in aphonia the vocal cords can be perfectly approximated during the act of coughing, though they cannot be brought together as a component of the movements necessary for speech.

[54] The Disorders of Speech, Edinburgh, 1894, pp. 300-302, and 309.
[55] Aphasia and the Cerebral Speech Mechanism, London, 1897, p. 31.
[56] Loc. cit. p. 321.

CONGENITAL ABSENCE OR DELAYED DEVELOPMENT OF THE PATELLA.

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AN annotation appeared in THE LANCET of Jan. 23rd, 1897, in which a paper on this subject by Dr. Bristow, of Philadelphia, was summarised.[1] Dr. Phocas and Dr. Potel, of Lisle, have also dealt with it recently.[2] Dr. Bristow described a case of his own and referred to five others which are not, I find, included in the list of twenty-five cases published by Dr. Phocas and Dr. Potel. I have had three cases under my care and have collected records of ten others observed by various writers, making, with an unpublished case of Mr. Adams, which I had an opportunity of examining, forty-two cases in all. In addition to these I have, by the kindness of Mr. William Sedgwick, a note of a family, in four generations of which eighteen persons had no patellæ and no thumb-nails; the majority of these were females. This deformity is generally associated with hyper-extension of the leg upon the thigh and with limited flexion of the knee. The amount of hyper-extension varies from a few degrees or slight subluxation to complete anterior dislocation, as in Hilton's case. In some cases the knees have been so stiff that the condition might be described as one of ankylosis. Talipes and especially varus is frequently present. Talus varus was noted in sixteen cases. Other forms of talipes were noted in five cases. Osseous defects such as deficiency of the fibula, spina bifida, and malformation of the hip-joint, and congenital dislocation of the hip have been noticed in several cases. In two cases quoted by Dr. Phocas and Dr. Potel the whole diaphysis of the femur was wanting. I have not included these two cases in my table. The condition was said to be hereditary in four cases, three of which have come under my personal notice, besides the eighteen persons of Mr. W. Sedgwick's note, already mentioned. In nine cases the knee-cap appeared at ages varying from six months to six years. In four it was wanting until the end of the period of growth, and in the remaining twenty-nine cases it had not appeared at the time of the last examination. In some cases the patella has been wanting on one side, and rudimentary on the other. It is interesting to note that the adult cases had no severe accompanying deformities, while in some of the cases of severe talipes, &c., the patella ultimately appeared. Only one necropsy is recorded as far as I have been able to learn. In this case (quoted by Dr. Phocas and Dr. Potel from Carl Müller) the flattened tendon of the quadriceps lost itself in the capsule of the joint and the aponeurosis of the leg. Contraction of (or traction on?) this muscle was without action on the movements of the leg. The subject was a stillborn infant. The following are short notes of my three cases (Nos. 40, 41, and 42 in the table).

CASE 1 (see Table, No. 40).—A female child, aged three months, was brought to the National Orthopædic Hospital in September, 1887, on account of severe double congenital talipes equino-varus. She was the first child. The father was operated on for clubfoot, and he and a brother, who died in infancy, are said to have had knees similarly deformed to those of this patient. The father's father was said to have had some deformity of the foot. The family history on the mother's side was negative as far as could be ascertained. The present patient's knees were found to be hyperextended, so that the leg formed an obtuse angle with the thigh anteriorly. With slight force the limb could be brought into the straight line, but flexion beyond this was impossible. The deformity of the feet was corrected, and the knee gradually bent by means of a splint, with thigh and leg plates applied to the front of the limb with a rack movement opposite the knee-joint. In May, 1889, the child could stand alone with the knees hyper extended, although no trace of either patella could be found. A walking instrument which

[1] Medical News, Philadelphia, Jan. 2nd, 1897.
[2] Revue d'Orthopédie, Paris, September, 1896.

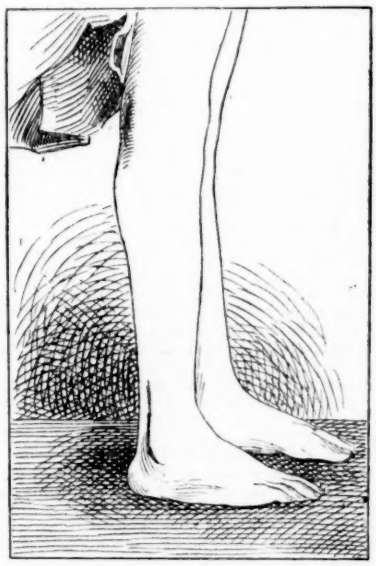
TABLE OF FORTY-TWO REPORTED CASES OF CONGENITAL ABSENCE OF PATELLÆ.

No.	Reported by	Reference.	Age in years.	Sex.	Side affected	Remarks.
1†	Chevelain.	1820, Neuville, France; quoted by Bristow.	†	—	L.	—
2	*—	London Medical Gazette, Jan. 19th, 1833.	Adult	M.	R. & L.	Walked many miles. Father and grandfather similarly affected.
3	*Wutzer.	Müller's Archiv, 1835.	$\frac{6}{12}$	M.	R. & L.	Limited movement of knee; slight hyper-extension.
4	Hilton.	Lectures on Rest and Pain, THE LANCET, Nov. 8th, 1862, p. 497.	3½	F.	R. & L.	Dislocation forwards of legs. Patellæ size of peas at four years.
5	*Duval.	Traité du Pied-bot, p. 94.	1$\frac{5}{12}$	—	R. & L.	Double varus. Knees only flexible to a right angle.
6	*Von Ammon.	Angeborene Chirurgische Krankheiten des Menschen, iii.	1½	—	R. & L.	Knee very loose. Muscles atrophied.
7	Bard.	Boston, 1835; quoted by Bristow.	—	—	One.	Side not stated. Patella appeared at three years.
8	*Braithwaite.	"Club Foot," 1856, p. 32.	$\frac{5}{12}$	—	R. & L.	Double talipes. Powerful retraction of quadriceps. Valgus of left foot, varus of right.
9	*De Moor.	Langenbeck's Archiv.	†	—	L.	Dislocation forwards of leg, easily reduced. Family history negative.
10	*Lane.	THE LANCET, Jan. 16th, 1858, p. 63.	8	M.	R.	Talipes equino-valgus. Knee apparently well formed.
11	Caswell.	Medical News, Philadelphia, Jan. 2nd, 1897.	—	—	L.	Malformed lower limbs (quoted by Bristow).
12	*Maas.	Archiv Klin. Chir., 1874, p. 92.	3	M.	R. & L.	Right leg dislocated forwards. Muscles of extremities normal.
13	*Korte.	Deutsche Zeitschrift für Chirurgie, 1876, Band vii.	2½	F.	R. & L.	Talipes equinus of both feet. Knee stiff. Could not stand or walk.
14	*Korte.	Ditto.	†	M.	R. & L.	Equino-varus of both feet. Knee stiff. Quadriceps atrophied.
15	*Lecœur.	Bulletin de la Société Médicale de Reims, 1873.	3	—	L.	Right patella rudimentary. Hyper-extension to 45°. Could not walk alone.
16	*M'Abé.	Bulletin de la Société Chirurgicale de Paris, 1874.	15 days	M.	R. & L.	Double talipes. Rotation outwards of legs.
17	Adams, W.	"Club Foot," 1873, p. 221.	$\frac{6}{12}$	—	R. & L.	Peculiar double varus. Knees and other joints stiff. Club hands.
18	Adams, W.	Ditto.	1½	M.	R. & L.	Double varus. Severe knock-knee. Subluxation of legs forwards. Club hands, &c.
19	*Jarwell.	THE LANCET, March 17th, 1877, p. 389.	6 weeks	M.	R.	Left patella rudimentary. Dislocation of both knees. Rudimentary right patella appeared after six months.
20	*Kroenlein.	Lehre von den Luxationen.	2 days	—	L.	Ankylosis of knees in hyper-extension.
21	*Kroenlein.	Ditto.	—	—	R. & L.	Dislocation of knee and hip. Patella present six months later.
22	Hulton.	Brit. Med. Jour., vol. i., 1892, p. 969.	—	—	R. & L.	Tendency to varus. Left hip and knee very loose indeed.
23	Hartigan.	THE LANCET, May 8th, 1880, p. 733.	—	—	L.	Hyper-extension of knee. Toes lay in the groin (quoted by Bristow).
24	Guaccin, J.	"Œuvres," livre iv., Paris, 1882, p. 606.	7½	M.	R.	Double varus. Left patella rudimentary. Adherent scars over sacrum. Stiff elbows, &c.
25	*Heinecke.	Krankheiten des Knies, Müller, vol. xxii.	3½	—	R. & L.	Double equino-varus.
26	Dzikowsky.	London Medical Record, 1885, p. 299, quoted from Odessa Medical Society.	22	M	R.	Left was rudimentary. Flat feet. Atrophy of leg muscles. Gait tabetic. Soldier.
27	Bernstein.	Ditto.	Adult	M.	One.	The other patella rudimentary. Gait tottering. A young officer.
28	*Müller, C.	Arbeit aus der Chirurgischen Clinik, Leipzig, 1888.	†	F.	L.	Stillborn. Subluxation of knee.
29	*Müller, C.	Ditto.	5 weeks	F.	L.	Equino-varus. Knee dislocated forwards.
30	*Stahl, J.	Berliner Klinische Wochenschrift, p. 42, 1889.	†	—	R.	Dislocation of knee forwards. Patella developed at one year.
31	*Pello.	Archiv di Ortopedia, vol. xi, p. 1.	½	—	L.	Arrest of development of all limbs and multiple ankylosis.
32	*Salaghi.	Archiv di Ortopedia, 1894, 222.	2	F.	R. & L.	Hyper-extension. Genu valgum.
33	*Reiland.	Gazette des Hôpitaux, Paris, 1888.	1$\frac{3}{12}$	—	R.	Quadriceps atrophied, and its lower part transformed into fibrous substance.
34	*Sayre, L.	Quoted by Phocas and Potel.	†	F.	L.	Varus. Hyper-extension. Toes touched the abdomen easily. Rudiment of right patella at nineteen months.
35	*Brunner.	Virchow's Archiv, 1891.	20	M.	R. & L.	Varus. Walked well and far. Slight tottering. No other bone deformity.
36	*Phocas and Potel.	Revue d'Orthopédie, Paris, No. 5, 1896.	3	F.	R. & L.	Double talipes. Knees only flexible to 120° and 110° respectively.
37	Bristow.	Medical News, Philadelphia, Jan. 2nd, 1897.	—	—	R. & L.	Double varus.
38	Julius Wolff.	Hoffa's Orthopädische Chirurgie, 1891, p. 580.	9	F.	L.	Right varus. Triangular fold of skin contracting left knee. Syndactylism, &c.
39	Little, E. M.	Mr. Adams's case.	—	M.	R. & L.	Double varus. Hereditary on father's side.
40	Ditto.	Case 1 above.	3 mths.	F.	R. & L.	Double varus. Hereditary hyper-extension. Patellæ found at three and a half years. Limited flexion of knee.
41	Ditto.	Case 2 above.	7 mths.	F.	R. & L.	Double varus. Hereditary hyper-extension. Patellæ found at three years. Limited flexion of knee.
42	Ditto.	Case 3 above.	6 mths.	M.	R.	Scars on buttocks. Limited flexion of knee. Rotation outwards of left limb. Patella found at two and a half years.

* Included in the list of cases published by Dr. Phocas and Dr. Potel.
† In the age column indicates new-born child.

prevented extension of the knees beyond the straight line was applied. In March, 1891, the age of the patient being three and three-quarter years, the right knee-cap was distinctly felt, but there was some doubt as to the left one. The knees were very lax. By October, 1896, both knee-caps were fairly well developed. In February, 1897, the child, who was then aged nine years and eight months, could

FIG. 1.



CASE 1.—Delayed development of patella, from a photograph showing the hyper-extension of the knee-joints.

run about and dance vigorously without difficulty. Her knees were capable of slight hyper-extension, as shown in Fig. 1 (from a photograph), but when standing or walking ordinarily did not pass the straight line. The patellæ were small and the front of each knee looked flat. On examination by the x rays a definite dark shadow was seen on the fluorescent screen in the situation of the patella.

CASE 2 (see Table, No. 41).—This patient, a sister of the foregoing, was brought to the National Orthopædic Hospital in November, 1892. She was the third child. Her condition was almost exactly similar to that of Case 1 (No. 40), except that the knees were flexible to about a right angle. She had double talipes equino-varus, which had been treated already by tenotomy and plaster-of-Paris bandages. The mother thought that the weight of these latter caused the knees to bend. The knee-joints, which were stiff at birth, were loose, and allowed excessive lateral and rotary movements. No trace of a knee-cap could be found on either side. The feet were treated and instruments ordered to restrain the extension of the knees. In August, 1895, she was admitted as an in-patient and Phelps's operation was performed on the right foot on account of relapse. The registrar's notes state that the knees were then almost flail-like and the ligaments were very lax; the tibiæ could be rotated on their long axes through an arc much greater than normal. The right patella was very small; the left could scarcely be felt. In February the child, being then five years and ten months old, could run about actively. The front of each knee appeared flatter than normal. The patellæ were obvious, but small and scale-like. A skiagraph, however, disclosed no trace of them, showing that ossification had not begun, although the tendon of the quadriceps threw a faint shadow, as seen on the concave anterior aspect of the knee in Fig. 2. The knee-joints were loose and allowed more lateral and rotary movement than normal. The knees were not generally hyper-extended, but the application of slight force brought them into the position shown in Fig. 3 (from a photograph in the supine position). In flexing the knees a jar was felt as of a subluxation occurring, or a cartilaginous ridge being passed or a tendon or ligament slipping from one position to another. The knees can be flexed through about 135°, or 45° beyond a right angle.

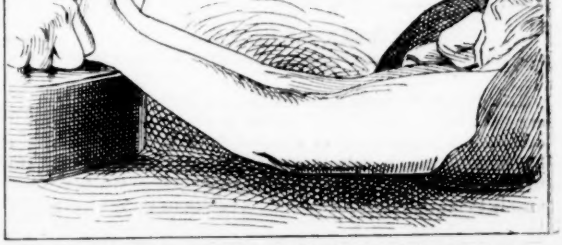
CASE 3 (see Table, No. 42).—A male child, aged six weeks, was brought to me in October, 1891. He was born by foot or breech presentation. The left patella was normal. The right patella could not be found. The left knee could be hyper-extended, but was flexible to the normal extent. The right knee was hyper-extended and stiff. The left thigh was rotated outwards. There were several deep scars over the buttocks and sacrum. The right testicle was not in the scrotum. There was no paralysis. The family history was

FIG. 2.

CASE 2.—Reduced from a skiagraph by the author. The patella is cartilaginous.

negative. Manipulations were ordered to the hip, knees, and feet, which latter were slightly inverted, but easily flexed and everted. In February, 1892, a splint was ordered for the right knee. In June, 1893, there was some doubt as to the existence of a rudimentary right patella, but in January, 1894, when the child was aged two and a half years, there was no doubt of its presence. In February, 1897, at the age of five years and four months, the child walked well, but the feet were rather flat. The left knee was normal. The patella measured transversely through the

FIG. 3.



CASE 2.—Delayed development of patellæ; from a photograph showing how the application of a slight force would cause hyper-extension.

skin one and a half inches. The right knee was flexible to eight degrees beyond the right angle. The patella measured one and a quarter inches across. The movements of the knee (other than flexion) were normal. There was no hyper-extension. The right hip could not be fully flexed, although it could be brought to an angle of 45° with the axis of the trunk. The great trochanters were situated in Nélaton's line.

Remarks.—Dr. Phocas and Dr. Potel attribute the deformity to paralysis of the quadriceps, but it is difficult to understand how such a condition could cause hyper-extension, although the arrested development of the muscle would doubtless affect the growth of its tendon, and contained sesamoid bone. In none of the cases that I have seen has there been any evidence of paralysis, nor does it appear to have been marked in any of the recorded cases. Other writers have sought to explain this and its accompanying deformities by deficiency of liquor amnii and pressure of the uterus preventing flexion at the knees. As Dr. Phocas and Dr. Potel point out, however, the cartilage of the knee-cap begins to appear in the second or third month of fœtal life, before active movements occur. Exactly similar deformities of the knee amounting, as in Mr. Godlee's [3] case, to dislocation may exist although the patella be present. In fact, the presence or absence of the knee-cap is of small practical importance. The accompanying hyper-extension, luxation or subluxation and malformation of bones are the important factors in making a prognosis. As long as the quadriceps tendon is inserted into the tibia the knee seems to be capable of good function without a sesamoid bone. So much is this the case that in a case reported by Bernstein (No. 27 in the Table) the patient did not know of his defect. Beyond a certain shakiness of gait he suffered no inconvenience from it. In my cases, as in others, the good effects of manipulations and appropriate splints have been marked in improving the mobility and stability of the knee-joints, and the effect of the application of weight to the feet, as in Case 2 (No. 41), suggests a mode of treatment that may prove useful. Forced flexion has been employed by L. Sayre and by Salaghi,[4] who ruptured the capsule of the joint and produced a hæmarthrosis. The final result is not recorded. Dr. Bristow and Dr. Phocas and Dr. Potel employed the x rays as a means of diagnosis in their cases, but it is evident that negative evidence obtained by this means is of no value in young children. Cartilage is particularly pervious to these rays, and as the patella does not begin to ossify until the third year we are not likely to find evidence of a bony patella before that age. In Gray's Anatomy, moreover, it is stated that the author examined the patellæ of two children of six years of age without finding any trace of ossification. I have examined the normal knees of several children by means of x rays, and have only succeeded in getting a shadow of the patella in a child aged seven years. In Case 2, where the patella was of fair size, the skiagraph showed no clear evidence of its existence at the age of nearly six years; no doubt ossification was delayed in this case, but more information is apparently needed as to the time of ossification in the normal subject.

Seymour-street, W.

A FOREIGN BODY IN THE AIR PASSAGES FOR NINE YEARS; OPERATION; REMOVAL; RECOVERY.

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THE patient, a woman aged thirty-eight years, had enjoyed excellent health until nine years previously, when one evening, whilst partaking of some broth made from sheep's head, she suddenly felt that she had swallowed a bone, which "stuck in her throat"; she sprang up from the table unable to breathe for a second or two, subsequently becoming blue in the face and gasping for breath. A medical man was hurriedly sent for. In the meantime the patient coughed a great deal, but expectorated nothing as far as she could remember, but experienced a sensation as though her throat was torn, the breathing remaining very embarrassed for about ten minutes, and she could not speak for fully an hour on account of the cough it excited. A raw egg was administered by a friend with the intention of "making the bone go down." The medical attendant, on examination of the throat, said that he saw nothing, and supposed that the bone had passed into the stomach. During that night the throat felt very sore and the patient coughed somewhat, but she felt well except that she suffered from the effect of the great fright she had received. The next day the patient was very prostrate and weak, and the throat felt very sore, especially on swallowing. The breathing as far as she remembered was quite normal. The practitioner said that she had an ulcerated throat and must keep in bed, which she did for about ten or eleven days. During this time the patient could eat nothing solid on account of the pain caused by deglutition, but the soreness of the throat gradually passed off. The throat continued to be slightly sore for about a month, at the end of which time the patient felt herself again. The patient remained in good health till three or four months afterwards (the beginning of the winter), when a hard, dry cough commenced, which lasted nearly the whole of the winter. This repeated itself every winter, each time getting worse, and soon was accompanied by a pain in her back at the base of her right lung; this she thought was due to the excessive coughing. Last year (1896) the cough became worse than ever before. Since the accident this had been the only trouble that the patient had complained of, but the cough and pain were so bad at times that she had to give up work for a day or two, but on none of these occasions did she seek medical advice. On July 24th, 1896, the patient went from Bristol to Clevedon (eighteen miles), had some fish for dinner, and on going out some half hour afterwards a violent fit of coughing came on. She went back to Bristol, coughing violently all the way, and at the same time bringing up a good deal of blood. Speaking was very painful and her voice was husky. That night, though she was somewhat better, she slept little and coughed somewhat, but did not bring up any more blood. The next day she complained of pain in the back of her head and neck, and the throat again was very sore, especially on swallowing. She went to a medical man, who prescribed for her, and advised her to go to bed. The cough soon ceased, but the throat remained very sore for a week, and the patient felt unwell in herself. The pain in the head and neck lasted about four days. She soon felt quite well again, but noticed that her breathing was becoming difficult and short, especially on exertion; this became progressively worse. In October the breathing was at its worst, and the patient attended the Western General Dispensary; there she saw the house surgeon, who, after examining her throat, asked her if she had ever swallowed anything, the patient replying that she never had; she was treated for the pain in the side. In November she attended at the North London Hospital for Consumption as an out-patient under Dr. Bunch, who prescribed a mixture of iodide of potassium for the tracheal trouble, considering it to be probably specific. She attended for six weeks. During this period she was exhibited at one of the laryngological societies as a case of tracheal stenosis of specific origin. She was admitted as an in-patient, and then complained of cough, thick dark expectoration, and great difficulty of breathing. She was put on one drachm of iodide of potassium daily, the case being still regarded as one of syphilitic tracheal stenosis. One drachm of mercury ointment was ordered to be rubbed into the neck three times a week. On Dec. 4th the patient felt better and the breathing was easier. On the 14th there was a slight paroxysm of dyspnœa in the night; her colour was good. On the 18th there was another paroxysm of dyspnœa. On Dec. 18th she was examined by Mr. Lake, who diagnosed a foreign body lying obliquely across the trachea from the right forwards and to the left (Fig. 1)—probably a pin or needle, the ends of which were embedded in an inflammatory swelling, ulcerated at the points of insertion of the body, and causing considerable narrowing of the trachea. On Jan. 22nd, 1897, in the absence of Dr. Bunch, a consultation was held with Dr. Pidcock and Dr. A. MacGregor, when, as there was now most distinct evidence of increased tracheal stenosis, and the patient's respiration was becoming seriously embarrassed, it was decided to ask the opinion of

[3] Transactions of the Clinical Society, vol. x.
[4] Archiv di Ortopedia, 1894, p. 222.

Mr. Watson Cheyne, the consulting surgeon to the hospital. Accordingly the patient saw Mr. Cheyne on the same day, and he agreed that a foreign body was present and that immediate operation was necessary, which he performed on the 25th. The patient was anæsthetised with $CHCl_3$, but, as expected, she took the anæsthetic very badly, the stridor becoming very marked and cyanosis coming on rapidly. An incision, about four inches in length, was made over the trachea, division of the isthmus of the thyroid being necessary. The patient ceased breathing just as the trachea was reached; it was therefore immediately opened, respiration being promptly re-established. The tracheal wound being enlarged a little upwards part of the foreign body was seen, and it was then extracted, and found to be a piece of bone (Fig. 2) with sharply bevelled edges. A long tracheal tube was pushed down to make sure that there was no further obstruction and some granulation tissue on the right side of the trachea was

FIG. 1.

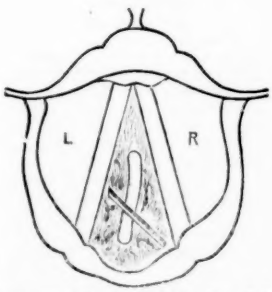

Diagram of foreign body *in situ*; it is drawn too thin and the shadow is on the wrong side.

FIG. 2.

Foreign body (actual size), the right upper side being that seen in Fig. 1.

lightly scraped. A Parker's tube was inserted and two stitches were used to the superficial wound. There was much coughing immediately after the operation, necessitating the withdrawal of the tube, when a large piece of granulation tissue detached by the tube was ejected. On the 26th the temperature was 97·6° F. in the morning. The patient coughed a great deal all day. On the 27th the temperature was 99·2° at 10 A.M., and the pulse was 98. The throat was still painful on swallowing. At 6 P.M. the temperature had risen to 100·4° and the pulse to 104. At 10 P.M. the temperature fell to 98·8° and the pulse to 102; the respirations were 30. The patient was very restless and the cough had become more troublesome. On the 28th the temperature at 7 A.M. was 98·6°. Nourishment was taken fairly; swallowing was rather less painful; the pulse was 96 and the respirations were 28. The patient did not feel so well; she complained of shivering about 11 A.M. The temperature at 2 P.M. was 103·2°, the pulse was 127, and the respirations were 42. The patient coughed a good deal and there was expectoration of glairy mucus. The tube was removed for a quarter of an hour. On examination of the chest behind a patchy dulness was noticed at both bases, but mostly on the right side. Patches of bronchial, almost tubular, breathing were heard, also râles, but this was most marked on the right side. She had had some pain in the right side. On the 29th the patient was much better. The temperature was 99·2° at 7 A.M., rising to 100·8° at 2 P.M. The physical signs had improved; the râles were less in number and less consonating; the breathing was not so tubular. The patient still coughed up a good deal. Counter irritation was applied to the left base. She had a fairly good night and on the whole was much better. The temperature rose to 98·4° at 7 P.M. By Feb. 1st all the physical signs in the chest had disappeared. There was slight cough, but no expectoration. The tube was removed. On the 17th it was noted: "Has been out to-day. Wound quite closed. Normal temperature. Cough better." On the 27th the cough was all right. On laryngoscopic examination a little button of granulation tissue was seen at the upper end of the tracheal wound, and the scar in the trachea was visible. The patient stated that she had not felt so well since she swallowed the bone nearly nine years previously.

Remarks.—We are indebted to Mr. Cheyne for his kind permission to publish this case, and have to thank Dr. MacGregor (under whose care the patient was owing to the temporary absence of one of us) and Mr. C. S. Read (the resident medical officer) for aiding us in preparing these notes. The case is one of extreme interest if, as we imagine, this bone was impacted in the right bronchus for over eight years, and then shifted its position in August, 1896, causing the tracheal stenosis. Its size was 0·82 by 0·60 of an inch, but it was thin, only consisting of the inner table of the sheep's skull. The extreme denseness of the bone was, no doubt, the reason it was able to remain so long unaltered in the body, and its peculiar shape and sharp edges prevented it moving about, and, when viewed from above *in situ*, it gave the impression of a bar.

Table of Recorded Cases in which a Foreign Body was in the Lower Air Passages for One Year or over, and in which Recovery followed after Removal by Operation or Spontaneous Expulsion.

Time.	Sex.	Reporter.	Size.	Remarks and source.
Years.				
3	(?)	Raznmowski.	—	Tracheal cannula.
2	M.	Desanes.	—	Cherry-stone; lodged in the ventricle of larynx.
1½	—	Liscure.	—	Bone; died eighteen months later. (Gross: System of Surgery.)
11	—	Walkupf.	—	—
1	—	Lewis.	—	Cherry-stone.
3	—	Terry.	—	Gun-cap.
2½	—	Schäfer.	—	Bone. (Therapeutische Monatsschrift, Band iii., 1891.)
1½	—	Schmidt.	—	Moritz. (Schmidt, p. 580.)
10	—	Dupuytren.	—	Coin. (Leçons Orales, vol. iii., Paris, 1833.)
4	—	Day.	—	Fish-bone. (London Medical Gazette, 1833.)
5	—	Provost.	—	Collar-button. (Pacific Medical Journal, vol. xxviii.)
1	—	Petit.	—	Second lower molar (Union Med., vol. xxxv., 1886—Signs of Phthisis.)
1½	—	Wharton.	—	Steel pin lodged in left bronchus. (Philadelphia Medical News, February, 1887.)
1	—	Traverg, Jun.	—	Cowdare shell. (Transactions of the Royal Medical and Chirurgical Society, 1812, vol. xxiii., p. 1.)
1½	—	Cragie.	—	Screw nail. (Craigie's Pathological Anatomy, 1848, p. 590.)
1½	—	Henry.	—	Water melon seed. (Gross: Foreign Bodies.)
1½	—	Duncan.	—	Head of grass. (Do.)
2	—	Booth.	—	Shot. (Do.)
2	—	Herrick.	—	Fishbone. (Do.)
3	—	Fluit.	—	Trunk nail. (Do.)
4	—	Duncan.	—	Piece of bone. (Do.)
6	—	Grindley.	—	Lead pencil. (Do.)
7	—	Walther.	—	Claw of crayfish. (Do.)
60	—	Bartlett.	—	Bone; pains in right side. (Do.)
6	—	Collard.	—	Mutton bone; died from other causes. (Do.)
2 to 3	—	Collard.	—	Nail.
1½	—	Daly.	—	Bone. (Omaha Clinics, April, 1889.)
2	—	Hayes.	—	Memphis Journal of Medical Science, November, 1890.
5½	—	—	—	Coin. (Brit. Med. Jour., February, 1896.)
3	—	Caport.	1 c.m. by 2 c.m.	Bone; left bronchus.
9	F.	Bunch and Lake.	0·82 by 0·6 of an inch.	Mutton bone; pain in side, bronchitis, and eventually dyspnœa.

The number of cases recorded of a foreign body being retained in the trachea or bronchus with recovery after removal or expulsion is thirty-one. The cases in which the

foreign body was retained longer than that forming the basis of this paper are three in number. As an example of another class of case—i.e., that in which the foreign body was retained and the patient died from other causes—may be quoted that by J. Mitchell,[1] in which a half sovereign was found at the bifurcation of the trachea many years after it was inhaled.

This table includes every recorded case during the present century that we have been able to find in which the foreign body was present for twelve months or longer, and in which recovery followed either operation or spontaneous ejection. In those cases which do not survive the cause of death is almost invariably tuberculosis. It is but speculation to try to arrive at the factors which conduce to the harmless retention of any foreign body in the lower air passages. Naturally there is the important but vague personal factor, with any tendency to the spontaneous development of tubercle, and probably the environment of the patient; next no doubt comes the position occupied by the foreign body, the most favourable probably being those in which there is absolute immobility, with the minimum of obstruction to the air stream. By the table it will be seen that with two exceptions the foreign body was not capable of absorbing moisture, and so swelling and becoming fœtid.

As to symptoms, they are very vague, the most usual one being pain referred to one side if the foreign body is lodged in a bronchus, but even this is by no means constant, the remainder are much what one would expect, both objective and subjective.

SOME REMARKS ON LAVAGE OF THE STOMACH IN CONNEXION WITH A FATAL CASE OF VOMITING WHILE UNDER AN ANÆSTHETIC.

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A MAN, aged thirty-seven years, was admitted into University College Hospital with profuse stercoraceous vomiting due to an old femoral hernia which had become strangulated four days previously while the patient was suffering from a slight attack of delirium tremens. The general condition was under these circumstances very unfavourable; vomiting occurred two or three times hourly, the pulse-rate was 144 to the minute, and the man had evidently been a heavy drinker, although there were then no signs of delirium tremens, and no organic disease of the heart or other organs could be detected. He took the anæsthetic—gas and ether given in the larger Clover inhaler—well, except for some struggling. When just passing into the stage of complete anæsthesia some vomit came up into the mouth without any visible muscular straining, the operation not having commenced. Respiration ceased entirely from that moment in spite of the immediate and long-continued application of artificial respiration, sponging out of the pharynx, laryngotomy followed by suction of some vomited matter out of the trachea, and other means of stimulation. Cardiac action certainly continued for a short time after respiration ceased, but the exact moment of its cessation was not ascertained as it seemed inadvisable to stop artificial respiration in order to allow of auscultation of the heart. Altogether about three-quarters of an ounce of the ether had been used. The necropsy showed the loop of gut in the hernial sac to be deeply congested, but not gangrenous. The other organs were healthy to the naked eye, except the lungs, which were œdematous and contained fæculent matter in the smaller tubes.

Remarks.—Death in this case was evidently not due to any toxic effect from the ether and should come under the head of death *under* the anæsthetic, not *from* the anæsthetic. The factor introduced by the etherisation was the abolition of the protective closure of the larynx, so as to allow the inhalation of some of the stercoral vomit due to the obstruction; the flooding of the bronchial tubes with the fluid matter producing immediate asphyxia. Similar accidents during anæsthesia in cases of intestinal obstruction are not uncommon and several are recorded in the Report of THE LANCET Commission appointed to Investigate the Subject of the Administration of Chloroform and Other Anæsthetics from a Clinical Standpoint. They may occur either with ether or chloroform and are more common when the patient is recovering from the anæsthetic than when he is passing under. It seems to be undecided which is the best anæsthetic for these cases, some preferring ether, others chloroform; but in this patient both the strong alcoholic history and the rapid pulse seemed to point to ether, apart from the abdominal condition. For the prevention of vomiting under the anæsthetic which in this class of case frequently occurs unnoticed, being caused by a quiet pumping action of the diaphragm and not by any strong contraction of the external muscles, it is usually recommended to put the patient under as rapidly as possible without allowing any sudden increase in strength of the vapour breathed, and also to keep the head somewhat inclined to one side. Both these precautions were taken, but probably it would have been still better to have administered the anæsthetic with the patient lying on the side, so as to minimise the risk of the inhalation of any vomited matter.

An accident such as this raises the important question of the advisability of washing out the stomach before giving the anæsthetic in any case of intestinal obstruction. It was laid down by such a high authority as the late Mr. Greig Smith, in a paper read before the Royal Medical and Chirurgical Society,[1] that, in any case of intestinal obstruction with a distended stomach either the stomach should be washed out before giving the anæsthetic or a local anæsthetic only should be used; and this opinion seems to have been endorsed by several of the well-known surgeons who took part in the discussion. This advice, however, seems to be by no means generally followed, and a preliminary lavage of the stomach in these cases is not considered by either Dr. Buxton or Dr. Hewitt in their books on anæsthetics. The advantages gained by this means are (1): the removal of a large quantity of poisonous material from the stomach, which if left is in part absorbed, and often causes severe toxic symptoms and sometimes death some hours or days after the obstruction has been relieved by operation; (2) the prevention of vomiting and the inhalation of fluid stercoral matter into the lungs either at the commencement or end of the anæsthesia. Death from this cause may even occur within an hour or so of recovery from the anæsthetic. Thus a case occurred in the University College Hospital in which a typhlitic abscess causing very severe intestinal vomiting was opened and drained; half an hour after the operation was over, when the patient was back in bed, profuse vomiting occurred and death took place immediately. Immediate death from asphyxia is not the only danger from inhalation of fæcal vomit, as if only a small quantity passes through the larynx there is great danger of it setting up severe or fatal septic pneumonia. The advantages of the avoidance of two such very grave dangers are so obvious that lavage would probably be universally employed as a preliminary in these cases if it were not for one serious objection. This is that the necessary manipulation performed on a conscious person often causes so much retching and straining that severe collapse may easily occur, especially as the patient is usually already in a critical condition, so that he is put in a worse position to stand the operation and anæsthetic. This collapse is by no means unknown when lavage is performed on a comparatively healthy person. To obtain the advantages of the lavage and to avoid the danger of collapse the patient may be first put under the anæsthetic and the stomach then washed out as may be then easily and quickly done without producing bad symptoms. Our intention was to do this in the present case, but the fatal vomiting occurred before he was sufficiently under. It is the method which has been used with very good results in most cases of intestinal obstruction in which I have administered the anæsthetic. The only objection to it is that, as in this case, vomiting may occur while the patient is passing under the anæsthetic. However, vomiting at the commencement is not nearly so common and is more preventable than that occurring after the anæsthesia, at which period nearly all the fatal cases seem to have occurred.

Thus there seem to be three methods of dealing with these cases of intestinal obstruction or other forms of distended stomach in which an operation is required, each

[1] Brit. Med. Jour., June 13th, 1896.

[1] THE LANCET, March 12th, 1892, p. 582.

method having its own disadvantages. 1. Not to use lavage, thus running the risk of vomiting producing asphyxia or septic pneumonia, and also of after toxic symptoms due to absorption from the stomach. 2. To perform lavage before giving the anæsthetic, running the risk of the production of collapse, thus increasing the danger of shock from the subsequent operation. 3. To perform lavage as soon as the patient is fully under, taking precautions to minimise as far as possible the danger from vomiting occurring before the stomach is emptied. Although the latter method is useless in a case such as the present, yet it seems to be the one with the fewest disadvantages, and apparently offers the best general way of treating these unsatisfactory cases.

ON THE INCREASE OF THE EOSINOPHILIC CELLS IN THE CIRCULATING BLOOD IN TRICHINOSIS.[1]

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IN the April number of the *Bulletin* of the Johns Hopkins Hospital, Dr. Brown reports some interesting observations upon trichinosis based chiefly upon studies of the blood and muscle of a case which occurred in the medical clinic under our observation. In this communication the remarkable fact was pointed out that the blood showed an enormous percentage of eosinophilic cells, the proportion reaching at one time as high a point as 68·2 per cent. of the entire number of leucocytes. Dr. Brown remarks justly that "the presence of such quantities of eosinophiles suggests their possible diagnostic value in trichinosis." The occurrence of a second case with similar manifestations would appear to justify our suspicions as to the great diagnostic importance of this increase in eosinophilic cells, and it has seemed to me advisable to present here a brief summary of these two instances. The careful studies of Dr. Brown will appear at length in an early number of the *Journal of Experimental Medicine*.

CASE 1.—An Englishman by birth, aged twenty-eight years, was admitted to the Johns Hopkins Hospital on March 3rd, 1896, complaining of general muscular pains and weakness. The patient, who was a reporter by occupation, had been leading the life of a tramp for some time before entry, sleeping at times out-of-doors and often deprived of sufficient nourishment. His family and previous history had no relation to his complaint at that time. For six weeks he had complained of "irregular indefinite pains," as he expressed it, in his joints, bones, and muscles, and for two weeks before entry these pains had been so severe that he had had great difficulty in moving about. There was a feeling of fulness in the head and great muscular tenderness and weakness, so much so that he had to be assisted in putting on his clothes. He was unaware of having had fever. There had been no œdema. Physical examination showed the patient to be a well-nourished man of medium size, with tongue thickly coated, and slight pallor of the lips and mucous membranes. The temperature on admission was 102° F., the pulse was 104, and the respiration was 24. The thyroid gland was rather large, particularly the left lobe. Examination of the thorax and abdomen proved negative; the lungs were clear on auscultation and percussion; the cardiac area was normal. There was a soft systolic murmur over the heart, most marked in the pulmonary area, heard a short distance outwards into the axilla. The spleen was not palpable; there were no rose spots. There was great muscular tenderness and lameness. Light touches upon the skin and pinching of the skin caused no distress, while deeper pressure was followed by considerable pain, especially in the muscles of the arms, thighs, legs, and gluteal regions. There was no tenderness in the course of the long bones. The muscular tenderness was general. The patient lay quietly in bed, any voluntary motion being accompanied by considerable pain. The temperature remained continually elevated, for the first five days ranging between 100° and 104·3°. After March 8th the temperature began to fall gradually, reaching a point under 100° upon the 13th, after which it remained nearly normal. The urine was slightly reduced in quantity; there was a well-marked diazo reaction; the sediment contained a few granular casts. The blood, examined on March 6th, showed red blood corpuscles, 4,232,000; and leucocytes, 16,500. A differential count of the leucocytes[2] gave the following results: small mononuclear leucocytes, 5 per cent.; large mononuclear and transitional forms, 7 per cent.; polymorphonuclear neutrophiles, 50 per cent.; and eosinophiles, 38 per cent. Though the continued high temperature and general pains at first suggested typhoid fever, the absence of any abdominal symptoms, the leucocytosis, and the extraordinary increase in the eosinophilic cells rendered the diagnosis improbable. On the other hand, the extreme muscular tenderness on movements or on pressure pointed directly to a myositis, and a diagnosis of trichinosis was made. This was confirmed by the removal of a small piece of muscle from the right biceps on March 12th and the demonstration of active living trichinæ and others just beginning to be encapsulated. After March 18th the patient improved steadily and was discharged on May 13th well. About April 10th the patient first left his bed, and for some days afterwards there was slight œdema of the ankles, the only œdema which had at any time been noted during his illness. An examination of the blood was made daily by Dr. Brown during the patient's stay in the hospital, and the elaborate charts which he has prepared will appear shortly in his detailed studies upon the case. The total number of leucocytes per cubic millimetre ranged between about 13,000 on May 16th to over 35,000 on April 18th, being for the greater part of the time above 15,000 in number. The percentage of eosinophilic cells, which was 37 per cent. on the day of entry, fell to a little over 3 per cent. on March 22nd, and then rose gradually, reaching the extraordinary level of 68·2 per cent. on April 23rd. The small and large mononuclear elements remained throughout at a percentage slightly higher than one would have expected with the degree of leucocytosis existing—that is, at about their normal percentage or a little below this, while the number of polymorphonuclear neutrophiles was in directly inverse proportion to that of the eosinophiles. Thus on April 23rd, with a leucocytosis of 17,700, the differential count of the leucocytes was as follows: Small mononuclear leucocytes, 19·6 per cent.; large mononuclear and transitional forms, 5·2 per cent.; polymorphonuclear neutrophiles, 6·6 per cent.; and eosinophiles, 68·2 per cent.

CASE 2.—A German by birth, aged twenty-nine years, was admitted to the Johns Hopkins Hospital on April 15th, 1897, complaining of chills and fever, muscular pains, and weakness. The patient was a sailor, having recently arrived upon a steamer from Cuba. Several of his shipmates had during the trip developed intermittent malarial fever of the æstivo-autumnal type. Both his family history and personal history were negative. For about ten days or two weeks the patient had noticed a loss of appetite and general muscular weakness. Six days before admission he began to complain of continuous frontal headache, and for four days there had been considerable pain in the calves of the legs and in the back. For five days there had been slight general abdominal pain. On the morning of his admission to hospital the patient had two fluid stools. Five days before the patient had noticed a sudden œdema of the eyes and face. This was so marked that the eyes were opened with difficulty, the movements of the lids being accompanied by some pain. For several days he had had slight pain on mastication and on deep inspiration. There had been shaking chills and considerable fever. Physical examination showed the patient to be a well-nourished man. The lips and mucous membranes were of good colour; there was slight fulness of the eyelids, which, however, was not very marked, and the tongue had a pasty white coat. The lungs were clear throughout. With regard to the heart, the position and area of dulness were normal, and the sounds were clear and of normal relative intensity. The abdomen was natural in appearance. There was slight tenderness on pressure in the right iliac fossa. The spleen was just palpable. The border of the liver was to be felt on deep inspiration. There was no general glandular enlargement. There were a few small pinkish papules on the trunk suggestive of a typhoid roseola. The urine was reduced in

[1] Remarks made in the Section for Internal Medicine of the Twelfth International Medical Congress.

[2] Stained, according to Ehrlich's method, with the triple stain of acid fuchsin, methylene green, and orange green.

quantity, of a normal colour, and of specific gravity 1018; there was a slight trace of albumin; diazo reaction was not present, the sediment was slight, and there were no casts. As to the blood, the red corpuscles were 5,000,000 and the colourless corpuscles 13,000. A differential count of the leucocytes gave the following results: Small mononuclear forms, 11 per cent.; large mononuclear and transitional forms, 5 per cent.; polymorphonuclear neutrophiles, 37 per cent.; and eosinophiles, 44 per cent. Examination of the stools, which were fluid and of a deep brown colour, showed no mucus or blood, and there was no evidence of parasites or ova. The temperature pursued a remarkable course, daily elevations occurring at about noon, rising to a point as high as 105° F., and falling during the morning hours to a subnormal point. The paroxysms very closely resembled those of æstivo-autumnal malarial fever. Repeated examinations of the blood were made without showing the presence of parasites or pigment, and on April 18th I aspirated the spleen in order to exclude absolutely the presence of malarial infection. No pigment or parasites whatever were to be found in the splenic juice. Regular examinations of the blood were made by Dr. Brown with the following result. The number of leucocytes varied between 6000 on April 23rd and 13,000 on the 15th and May 3rd, while the percentage of eosinophiles varied between 14 per cent. on April 29th and 42·8 per cent. on the 15th. In this case, as in the former, the same inverse proportion existed between the number of neutrophilic and the eosinophilic leucocytes. Thus, on April 29th, with a leucocytosis of 12,000, there were only 14 per cent. of eosinophilic cells and 67 per cent. of polymorphonuclear neutrophiles, while on the 15th, with 42·8 per cent. of eosinophiles, there were 43·1 per cent. only of polymorphonuclear neutrophiles. It is extremely interesting that here the mononuclear forms represented almost exactly that percentage of the total number of leucocytes which might have been expected under ordinary circumstances, with a leucocytosis of the existing degree. The results, then, of blood examination were practically the same as those obtained in the above described case of trichinosis. The enormous percentage of eosinophilic cells present in the blood in connexion with our former experience led us to suspect the possibility of the existence of trichinosis in this instance, and consequently a small piece of muscle was removed from the calf of the right leg. Pieces of this muscle were examined in fresh salt solution without the discovery of trichinæ. The remaining bit of muscle was hardened in alcohol, embedded in paraffin, and cut. In the specimens stained in hæmatoxylin and eosin the characteristic degenerative processes described by Dr. Brown in the former case of trichinosis were discovered, and also in one portion of the muscle a characteristic young trichina embryo, not as yet encapsulated, which had evidently just entered into the muscle fibre. The patient made a good recovery, and left the hospital feeling perfectly well on May 18th, since which time he has escaped our observation.

Thus, in two instances of acute trichinosis we have discovered the remarkable fact that the blood contained a larger percentage of eosinophilic cells than has ever heretofore been noted. This increase in eosinophilic cells, so striking in the first instance, led us to suspect the existence of trichinosis in the second milder case in which the clinical symptoms would scarcely have justified a diagnosis. This observation we are inclined to believe may possess considerable diagnostic importance. It is important and interesting to note that this increase in eosinophilic cells occurred always in association with a leucocytosis, and that the increase in eosinophiles was invariably associated with a corresponding decrease in the polymorphonuclear neutrophilic elements. The small mononuclear elements and the large mononuclear and transitional forms preserved always either their normal proportion or a somewhat reduced percentage, as might have been suspected in connexion with a leucocytosis of the extent present; the percentage of the polynuclear and eosinophilic cells together form nearly or quite the proportion commonly represented by neutrophiles alone. These cells were always present in inverse proportion one to the other, an increase in the one variety being invariably associated with a decrease in the other. This remarkable fact points certainly to a close relationship between the origin of these two varieties of cells, and forms suggestive evidence in favour of the view held by some observers that the eosinophilic cells arise by some direct transformation from the ordinary polymorphonuclear neutrophilic elements. Dr. Brown suggests in an interesting manner that some such change may, in these instances, have taken place in the areas of degenerated muscle. Here he was able to demonstrate an enormous percentage of eosinophilic elements among the wandering cells, a percentage distinctly greater than that present in the circulating blood upon the same date or in the interfascicular vessels of the affected region. Dr. Brown also believes that he has demonstrated in the affected areas of the muscles transitional forms between the two varieties of cells—namely, polymorphonuclear elements possessing a granulation showing every stage between the small granules indefinitely staining with eosin—the ordinary neutrophilic granulation—to the well-marked, round or ovoid, refractive, deeply staining eosinophilic granules.

Conclusions.—1. In two instances of trichinosis the circulating blood has been found to contain a larger percentage of eosinophilic cells than has ever previously been demonstrated. 2. This increase in eosinophiles, occurring in connexion with a moderate or well-marked leucocytosis, always occurs at the expense of the polymorphonuclear neutrophilic elements, which are correspondingly diminished in number, the small and large mononuclear and transitional forms being present in normal proportions or in a percentage slightly below normal, not far from what one might expect with a leucocytosis of the existing degree. 3. Whether these changes in the blood are characteristic of trichinosis or whether they are also to be found in extensive myositis from other causes remains to be shown. 4. The remarkable inverse proportion between the eosinophiles and the neutrophiles in these instances, as well as the changes observed by Dr. Brown in the histological study of the muscle, form suggestive evidence in favour of the view that the increase in eosinophiles in these cases occurred by a direct transition from the polymorphonuclear neutrophilic elements.

Baltimore.

STRANGULATED HERNIA I NFANCY WITH A REPORT OF A CASE OF INGUINAL HERNIA SUCCESSFULLY OPERATED UPON IN A CHILD AGED TWENTY-TWO DAYS.

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STRANGULATED hernia requiring operation during infancy is a very unusual occurrence. The most recent contributions to the literature of the subject have been published by Carl Stern[1] and by Tariel[2] of Paris. The extreme rarity of the condition is forcibly insisted upon by both writers. Stern, in order to determine its frequency, consulted the records of the children's hospitals of Basle, Prague, Breslau, Vienna, Krakow, Frankfort, Amsterdam, Berne, and Göttingen. In these hospitals for four consecutive years 139,000 children were treated, but there is no record of any case of herniotomy for strangulation. Of 1900 cases operated upon for strangulated hernia in various hospitals 13 occurred in children. The proportion of cases in adults as compared with children is calculated by Stern to be in the ratio approximately of 108 to 1. Tariel, after remarking that several noted surgeons, among whom are Holmes, Gosselin, St. Germain, and Lannelongue, have never met with acute cases requiring herniotomy, tabulates the records that he has been able to collect. They number in all 128. König states that throughout his long surgical career he has only met with two cases requiring operation in the "early years" of childhood. Nussbaum operated upon two cases among a total number of 54,000 children under his care. Broca found strangulation in 9 cases out of 200 requiring radical cure in infancy. The first collection of records of operations of this kind was made by Ravoth, who tabulated 30 well authenticated cases. Féré, who followed him, investigated the records of 52 operations in 56 cases. Howard Marsh,[3] in 1874, collected 47 cases. Knobloch,

[1] C. Stern: Centralblatt für Chirurgie, 1894.
[2] Tariel: Revue mensuelle des Maladies de l'Enfance, Paris, May, 1895. See also Prior: Archives of Pediatrics, Philadelphia, 1894.
[3] Howard Marsh: St. Bartholomew's Hospital Reports, 1874.

whose investigations preceded those of Stern, compiled notes of 87 herniotomies for inguinal, 11 for umbilical, and 1 for femoral hernia. To this already comprehensive list Stern added 51 later cases of inguinal and 3 of umbilical hernia.

On a perusal of these researches two facts stand prominenently out from the point of view of interest. The first is that operations are more frequently called for during the earlier months of childhood than during the later. The greatest number occur in the first, second, and third months of the first year. The proportion after this period diminishes very rapidly as is shown by comparing in a tabular form the cases operated upon in each of the first twelve months.

During the	1st	month	16	cases occurred.
,,	2nd	,,	15	,, ,,
,,	3rd	,,	14	,, ,,
,,	4th	,,	9	,, ,,
,,	5th	,,	4	,, ,,
,,	6th	,,	7	,, ,,
,,	7th	,,	3	,, ,,
,,	8th	,,	6	,, ,,
,,	9th	,,	9	,, ,,
,,	10th	,,	3	,, ,,
,,	11th	,,	3	,, ,,
,,	12th	,,	4	,, ,,

During the third and fourth years only 4 cases are noted. The second point is this—that the symptom most commonly observed in children, or perhaps one should call it an associated condition rather than a symptom proper, is retention of urine.

With regard to the cause of strangulation Howard Marsh states that, in 32 cases which he investigated, in 20 it was in the neck of the sac, in 7 at the external ring, in 3 at the internal ring, in 1 at both rings, and at the conjoined tendon in 1. Tariel found that the neck of the sac caused the constriction in 58 cases out of a total of 81 examined. The contents are most frequently portions of the small intestine, but in a proportion not inconsiderable the cæcum and the appendix have been found within the sac. In one case the Fallopian tube and ovary were present.

The treatment of strangulated hernia in infancy does not differ from the similar condition found in adults. A radical cure should always be performed if the condition of the patient permits it. Both Stern and Tariel compute the mortality of the operation, but as the cases they investigated extended over a period of nearly thirty years no great reliance can be placed on the percentage of deaths. One fact, however, seems quite clear—that the mortality during the first four years of life is quite appreciably less than the average mortality of later years. The last short series of cases deserving of mention are those of Coley,[4] of New York. He operated upon five cases in infants under one year. Death occurred in a child practically moribund at the beginning of the operation. In two cases the cæcum and appendix were found in the sac. A radical cure was performed in all cases. Up to the present none have relapsed.

The following case has recently come under my care. The patient was a male, aged twenty-two days. Since birth a rupture had been noticed on the right side. About twenty-four hours before I saw him the rupture came down when the child was crying. The mother, on examining it, found that the size of the swelling was larger than she had previously noticed it, and her attempts at reduction failed. Within an hour the child had vomited and had continued to do so at intervals which were becoming gradually curtailed. For about twelve hours no urine had passed. On examination I found a tense inguinal hernia on the right side, of approximately the size of a billiard ball. Attempts were made to reduce the hernia without, and with, anæsthesia from chloroform, but were unsuccessful. I at once proceeded to operate. The sac of what I saw to be a congenital hernia contained a little fluid, and about ten or twelve inches of distended and discoloured small intestine. The point of strangulation was at the neck of the sac. I stretched the rings with my finger and returned the gut; completing the operation by performing a radical cure by Ball's method and by fashioning a tunica vaginalis from the lower part of the sac. A dressing of collodion and gauze was applied. During the operation the child passed urine. The after history was uneventful and recovery was speedy. Up to the present the hernia has not returned; no truss is worn.

Leeds.

[4] Coley: Dennis's System of Surgery.

THE NON-CONTAGIOUSNESS OF ANÆSTHETIC LEPROSY.

By S. P. IMPEY,

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I THINK all medical men who have paid attention to the study of leprosy are agreed that the disease is due to the presence in the system of the bacillus lepræ, the true nature of which was discovered by Dr. Amauer Hansen of Bergen. This bacillus is a difficult one to study, for it has not only not been discovered in any other tissues but that of the human body, but it has defied all attempts at cultivating it in artificial media, and all inoculation experiments with it on the lower animals have failed, so that its life-history is not well known; but, nevertheless, we have during the last few years added much to our knowledge concerning the disease of which it is the cause. If the bacillus is the cause of leprosy, and it is found only in the human body, it follows that the human body must be the source of infection of all fresh cases of leprosy, and it also follows that in order to stamp out the disease or to check its spread the diseased must be separated from the healthy.

I had, whilst on Robben Island, a large number of lepers under my charge, who afforded me a good opportunity of becoming well acquainted with the disease and its treatment, and I spent much time and devoted much attention to the study of the prophylactic treatment of the disease. The more I studied the subject, and the more I became acquainted with the true nature of leprosy, the more I became convinced that the systems of segregation adopted in this and other countries were wrong—wrong in principle, wrong in practice, and wholly unscientific. I found that the laws dealing with the lepers, which were made at a time when the disease was not understood, were not only inadequate, but, by their very severity, were retarding the work for which they were framed. I became convinced that if leprosy was to be stamped out effectually a simpler and less harsh system of segregation should be adopted—a system based upon the solid foundation of knowledge, and one that was scientifically correct. I am a firm believer in the efficacy of segregation, for I think that the only way in which we can hope to check the spread of leprosy is by isolating those cases which are a danger to the public, but I also believe that it is unnecessary to isolate all lepers, for though some lepers are undoubtedly highly dangerous to the public, others are, in my opinion, harmless. I think the dangerous cases should be very strictly segregated, but the harmless lepers should be allowed their liberty. My object in writing this paper is to endeavour to show that all cases of anæsthetic leprosy are harmless, and that it is not only unnecessary but wrong to force them to live in leper asylums.

Patients suffering from leprosy may, for all practical purposes, be divided into two classes, those in whom nodules or tubercles occur and those in whom there are no tubercles. The former class includes all tuberculous and mixed cases, the latter all cases of anæsthetic or nerve leprosy. In tuberculous and mixed leprosy bacilli are found in many tissues of the body, in anæsthetic leprosy they are confined to the nerves. I am aware that some authorities are of opinion that the bacilli are found in the cutis in the anæsthetic patches, especially during the erythematous stage of the disease, but this I think is a mistake. Professor Unna, of Hamburg, and others are of opinion that in anæsthetic leprosy all the tissues of the body except the nerves are immune against the bacilli; with this opinion I entirely agree, for if it were not so nodules would form in all cases and bacilli would be found in some other of the tissues, but I have never been able to find the bacilli in the body of an anæsthetic leper except in the nerves. We must, therefore, conclude that the cutis and other parts in anæsthetic leprosy are protected in some way against the leper bacillus, and that the bacilli cannot exist elsewhere than in the nerves. I am of opinion that those who have reported the finding of bacilli in the cutis of anæsthetic leprosy have made an error of diagnosis and have mistaken mixed or tuberculous leprosy for the anæsthetic form of the disease. During the erythematous stage of leprosy the two forms are very much alike, so that unless the greatest care is taken an error of diagnosis may be very easily made

even by one well acquainted with the disease. All things go to show that there is very little doubt that in anæsthetic leprosy the bacilli are confined to the nerves. All the nerves of the body are not attacked by the bacilli, nor are the affected nerves diseased in the whole of their extent; the bacilli are found only in certain nerves and in certain parts of those nerves. They are found in the nerves of the extremities, in some of the cutaneous nerves of the trunk, and in some of the nerves supplying the facial muscles. The bacilli are thus limited in their distribution, but, what is of perhaps greater importance, they are limited as to the time of their stay in the body. The bacilli enter the nerves and there set up a violent form of neuritis which soon destroys the nerve fibres; in the general destruction the bacilli are themselves killed. All the fibres in a nerve may be destroyed or some of them only, and the amount of tissue destruction is wholly dependent upon the amount of nerve destruction. The parts which are deprived of their nerve power are lowered in vitality, and thus become the seat of much tissue destruction. It may be readily seen that the more central the lesion in the nerves is, the greater is the resulting tissue destruction, and the more peripheral the seat of lesion in the nerve the less will the tissues be destroyed. This is only what we might expect from the nature of the pathology of anæsthetic leprosy, but these circumstances or results play an important part in determining whether anæsthetic lepropsy is contagious or not. If only the terminal twigs of a nerve are diseased there is little harm done; there is some anæsthesia of the parts and there may be some atrophy of the tissues, but there is no ulceration. The anæsthetic patches on the body of a leper are instances of this form of lesion; they never become ulcerated. If the nerves are diseased in the neighbourhood of the wrist joint there is generally only a slight numbness of the fingers, with, perhaps, a slight contraction of the digits, but there is no ulceration. If the nerve lesion is in the neighbourhood of the elbow-joint—the most usual site—and all the fibres of the nerves are affected, then we find ulceration and destruction of the fingers with loss often of the metacarpal bones. If the lesion is still more central we may have destruction or absorption of the bones of the forearm up to within a short distance of the elbow-joint; this, however, is an exceedingly rare occurrence. In an anæsthetic patch the bacilli are confined to the nerves and there is no broken surface, so that it is highly improbable, and I may say almost impossible, that the bacilli can escape from one of the patches. The bacilli also are found in these patches only during the erythematous stage of the disease, which is of comparatively short duration, for coincident with the subsidence of the congestion is the disappearance of the bacilli from the part, so that all that remains of a colony of bacilli in an old anæsthetic patch is a mass of granules, composed of disintegrated micro-organisms, embedded in the fibrous band which is all that remains of the diseased nerve. In consideration of these facts I think it may therefore be conceded that the leper bacilli do not escape from the anæsthetic patches. With regard, however, to the more serious changes which take place in the extremities, there are certainly many wounds, but nevertheless the bacilli cannot leave the body by them. If the nerve is diseased in the neighbourhood of the wrist joint no wounds are found, so that the bacilli cannot escape. If the nerve is diseased at the elbow joint there are wounds on the fingers or in the hand, but here the bacilli are far removed from the broken surface, and therefore they are not likely to escape by it, nor, in fact, do they escape by these wounds. I have never yet detected a bacillus in the discharges from wounds of an anæsthetic leper, nor have I met a leprologist who has done so, so that though there are many wounds in an anæsthetic leper's body, yet it must be acknowledged that the bacilli do not leave the body by these wounds.

Now we know that in anæsthetic leprosy the bacilli are, and must be, confined to the nerves, for, as I have before mentioned, all the other tissues of the body are immune against the bacilli, therefore they cannot attack the internal organs or exist in the lymphatic and other glands of the body. The bacilli are confined to the nerves, and I have shown why they cannot escape from the nerves, therefore I think all must acknowledge that though leprosy is theoretically a contagious disease, yet the anæsthetic form of it is practically non-contagious, and therefore perfectly harmless. But there is yet another reason why most anæsthetic lepers are harmless. Some years ago I expressed the opinion that some cases of anæsthetic leprosy became self-cured, meaning thereby that in these cases the bacilli had ceased to exist in the nerves, that this fortunate condition was due to natural causes and not to medical treatment, that, in fact, the disease had run its course and had thus cured itself. I further stated that it was only in the earlier stages of anæsthetic leprosy that it was possible to find the bacilli in the nerves, and that in the later stages all traces of the bacilli were lost. These opinions are now recognised as correct by, I think, all those who have studied the subject. Nearly all diseases caused by bacilli have a definite course to run, after which the tissues become immunised and the bacilli die, and leprosy is no exception to the rule, only, unfortunately, the disease is such a severe one that few patients live long enough to tell the tale.

It is difficult to fix the exact date when the bacilli cease to exist in the body of an anæsthetic leper; I did think it was at about the tenth year, but I have reason now to believe that the disease is of much shorter duration, and that four years is much nearer the mark. The duration of anæsthetic leprosy is generally put down as from five to forty years, or even more, but this is wrong, and the mistake is due to the fact that the results of the disease are taken for the disease itself. We might just as well say that the duration of small-pox is from three weeks to ninety years, for many people who die at this ripe old age are pitted by the disease. If leprosy is due to the bacilli, which no one now denies, then surely when the bacilli cease to live in the body the disease itself must cease to exist, and the patient after that suffers from the effects of the disease and not from the disease itself. That the bacillus lepræ does cease to exist in the body which it has more or less destroyed is proved by the fact that no bacilli can be found in the body of a chronic case. Such patients are cured, and we have no more reason to call them lepers or to say that they are suffering from the disease than we have to say that because a man is marked by small-pox he is suffering from variola. I think it is not only unnecessary to isolate these cured cases, but I think it is wrong to force them to herd with those who are a constant and distinct danger to those about them.

It has been stated that in advanced cases of anæsthetic leprosy—cases in which the disease has been apparently dormant for years—there have been fresh outbreaks of the disease, and that in some of these cases nodules develop. I do not deny this statement, for I have seen similar cases, but I do not agree as to the assigned cause of the fresh outbreak. I cannot believe that the bacillus remains dormant for so many years and then without rhyme or reason starts to work again; but I do believe that these fresh outbreaks are due to re-infection. It is an unusual occurrence to have a fresh outbreak, but when it does occur after many years it most invariably takes on the nodular form of the disease, which goes to prove, I think, that it is a case of re-infection and not of recrudescence.

In an anæsthetic leper most of the tissues are protected against the bacillus, but we know that immunity seldom is of very long duration, so that we can readily conceive that when the bacillus ceases to exist in the body its antitoxin effects would pass off, leaving the tissues unprotected against a second attack of the disease. Many of the cured cases, though free from bacilli, have many wounds, and being thus forced to live in close and constant contact with the nodular cases, from whose bodies there is a plentiful supply of bacilli constantly escaping, it is not to be wondered at that there are cases of re-infection; the wonder it that any of them escape.

The question of the non-contagiousness of anæsthetic leprosy is not only a most interesting one, but one that deserves the earnest attention of the medical profession, for upon the correctness or not of my opinion depends in a great measure the future treatment of the leprosy question. One of the greatest medical problems of the day is—How best to deal with the lepers in order to check the spread of a disease which has of late years made vast strides and rapid progress in almost every part of the world. The whole question resolves itself into a matter of "£ *s. d.*" Many countries have not attempted segregation on account of the expense, for in many cases the number of lepers is so great that the finances of the country cannot stand the cost of providing hospital accommodation for them all. Other countries for the same reason have adopted a system of partial segregation with most unsatisfactory results; in no country is complete segregation insisted upon. In South Africa half the lepers

are at the present time at large because there is no room for all in the asylums. In warm countries there are twice as many anæsthetic lepers as there are nodular ones, so that if it is found unnecessary to segregate the anæsthetic cases the number of lepers to be dealt with is at once enormously reduced, and the cost of stamping out the disease will be reduced to the extent of two-thirds of what is at present required.

I am of opinion that in the Cape Colony, with half the present accommodation at my disposal, I could find room for every leper who is a danger to the public. At the present time the asylum wards are crowded with patients, many of whom are cured anæsthetic cases, and who are therefore harmless, to the exclusion of a large number of nodular cases, who are a distinct danger to the healthy public, and who, being at large, are daily spreading the disease. We are, by thus dealing with all lepers indiscriminately, not only inflicting an unnecessary hardship upon many whose sufferings are already almost beyond endurance, but we are actually retarding the work on account of which we are making the innocent suffer. I think all anæsthetic lepers should at once be removed from the leper asylums, and if they cannot support themselves they should be treated as ordinary paupers. By allowing the present system of indiscriminate segregation to continue the legislators are forcing the unfortunate anæsthetic cases to expose themselves to the danger of re-infection and of contracting a disease which it is our endeavour to stamp out.

Cape Town.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TOXIC SWEAT AND ITS VICARIOUS ELIMINATION.

BY DAVID WALSH, M.D. EDIN.,
PHYSICIAN TO THE WESTERN SKIN HOSPITAL.

THE toxic nature of the ordinary sweat of man appears to be well established by the researches of M. Arloing recently published in translated form in the columns of THE LANCET.[1] If confirmed, his observation is likely to throw light upon a number of more or less obscure problems both of etiology and of pathology. If it be true that the skin habitually excretes a toxic substance or substances, then it follows that if the sweat be checked—e.g., by a chill—the toxic material will accumulate in the blood, and the stress of its excretion will be thrown upon other organs. This toxic sudorific material, assuming it to exist, does not appear to damage the skin in normal perspiration, but when the action of the skin is suddenly excited, as by a Turkish bath, there sometimes results an immediate and very definite papular rash which has a strong analogy with the "prickly heat" of the tropics. Perhaps the explanation of this interesting phenomenon may be found in the increased amount of irritant toxic material brought to the skin. That effect might obviously be intensified by the presence of other irritants existing in the blood, such as certain drugs or specific poisons, which are, as it were, superadded to the ordinary toxic principles of sweat.

The general relationship of skin rashes to inflammation of other eliminating organs I have discussed elsewhere.[2] Briefly put, this theory of excretory irritation suggests that a large class of skin rashes are the direct result of the excretion of some irritant from the blood. The irritant may be in the form either of a drug (as arsenic), of a specific micro-organism or its products (exanthems or antitoxin), or of other poisons introduced from without or elaborated within the body (ptomaine poisoning or gout). All, or nearly all, internal agents that cause a dermatitis are capable of inflaming other channels of exit of waste from the body, as the lungs, kidneys, or bowel. In this way arsenic may set up dermatitis, gastro-enteritis, and nephritis, and scarlet fever (presumably due to specific microbes) may give rise to a similar train of evils. In other words, a blood borne irritant agent that is capable of inflaming the skin may also attack vicarious routes of excretion. The time-worn illustration of a knot of persons exposed to some common injurious condition of environment, but who suffer therefrom in different ways, is familiar enough to medical readers. Four men, say, are immersed in a stream; as a result one develops coryza, a second pneumonia, a third nephritis, and a fourth rheumatism. Let it now be supposed that four men suffer in those various ways after exposure to a draught of cool air while sweating freely. Let it also be assumed that sweat normally contains, as M. Arloing asserts,[3] "some energetically poisonous substances, occasioning more or less derangement to all parts of the organism, disturbing the intimate phenomena of nutrition, modifying the composition of the blood, substances the properties of which possess a strong analogy to certain microbic toxins." The sudden suppression of the sweat is likely to force these "normal" toxic materials back upon the blood, and the stress of their elimination must then necessarily fall upon other eliminatory organs, with such possible or probable results as nephritis, pneumonia, and other excretory inflammations. But there is more than this. In rheumatism the blood in the first instance is probably always more or less at fault, and there is no evidence to show that in the rheumatic condition the toxic principle of the sweat is not much more complex in composition and variable in effect. If such were the case the result of damming its skin exit, and thus inviting vicarious elimination, would be *pari passu* a much more serious matter—that is to say, there would be infinitely more risk in checking a pathological than a normal sweat. It will be most interesting to learn if M. Arloing has extended his experiments to the relative toxicity of normal and pathological sweats, the latter to include the skin excretions of various fevers, rheumatism, gout, septicæmia, and so on. From the constant association of "chills" and arrested sweating with rheumatism one is tempted to hope that the brilliant researches of M. Arloing may give some clue to the etiology of a disease in which so much remains to be discovered. One is the more hopeful of such an issue upon recalling the striking analogy between the signs and symptoms of many of the septic poisonings and those of rheumatism.

Endless problems are suggested by even a superficial consideration of this captivating theory of the toxicity of sweat. Why, for instance, is exposure to cold so extremely dangerous when a patient has developed the rash of scarlet fever? It is known from clinical experience that the sudden disappearance of the rash is usually a sign of grave import, and that chill spells nephritis. May it not be that the action of the skin is checked while actively engaged in excreting toxic irritant substances, the elimination of which is then thrown upon the kidneys and other organs? That is to say, the excretory irritation is shifted from the skin to the kidneys. Moreover, it appears not altogether unlikely that a checked skin elimination might be the cause of the subacute rheumatism that often follows scarlet fever. It seems curious in these days of accumulated knowledge that there should be no established scientific explanation of the cause and relations of so everyday a phenomenon as the rash of scarlet fever.

Pump-court, Temple, E.C.

[1] THE LANCET, Sept. 4th and 11th, 1897.
[2] Excretory Irritation (London: Baillière, Tindall, and Cox, 1897).

TWO CASES OF PUERPERAL SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM; RECOVERY.

BY RICHARD RICHMOND, M.D. EDIN.

THE results obtained by the serum treatment in the two following cases have led me to think that the few notes taken during their progress may be of some interest to the profession.

CASE 1.—This patient was delivered naturally and easily of her third child on May 24th, 1897, and remained well until the 26th, when she had a "shivering fit." On the 27th her temperature was 102·2° F., her pulse was 115, and she was in great discomfort, with headache and a hot, dry skin. Her tongue was covered with a thick yellowish fur; the lochial discharge was very scanty, pale, and somewhat fetid, but not particularly offensive, and

[3] THE LANCET, Sept. 11th, 1897, p. 677.

there was considerable tenderness on pressure over the uterus. She was given three grains of calomel at bedtime and five grains of sulphate of quinine every four hours. On the 28th the temperature was 101° and the pulse 106. The patient's bowels acted freely and she expressed herself as feeling better; but the tenderness over the uterus was very marked, the lochia were scanty, and the secretion of milk was almost *nil*. The quinine was continued, and the calomel was repeated at bedtime. On the 29th the temperature was 100° and the pulse 100. The patient was still very ill, her tongue was thickly coated, and she was unable to take food; there was no change in the lochia. On the 30th the temperature was 101·6° and the pulse 110. There was no improvement in the symptoms, and 10 c.c. of anti-streptococcic serum were injected under the skin of the abdomen, the quinine being also stopped. On the 31st the temperature was 98·4°, the pulse was 72, and the change in the patient was remarkable. She expressed herself as being well. She slept eight and a half hours during the night, her skin was moist and cool, and her tongue commenced to clean; the lochial discharge was somewhat increased in amount; 5 c.c. of serum were injected. On June 1st the temperature was 98·2° and the pulse 74. The patient was much better, and she asked to be allowed to sit up in bed; 5 c.c. of serum were injected. On the 2nd the temperature was 98·2°, and the pulse 66; the tenderness over the uterus was quite gone, the lochia were natural in amount, and milk was freely secreted. The further progress of the case was perfectly satisfactory.

CASE 2.—This patient was a primipara who was attacked by puerperal septicæmia followed by pelvic cellulitis. At her confinement, which occurred on May 29th, 1897 the presented; the delivery of the head was difficult, the breech perineum was lacerated, and there was somewhat severe post-partum hæmorrhage. The patient had been confined to bed with rheumatism for two months previous to delivery. During the first few days after delivery her temperature remained normal, though her pulse-rate varied from 100 to 110. On June 3rd she had a slight rigor; her temperature rose to 101·8° and her pulse to 140. The lochial discharges were plentiful, but pale in colour and very offensive. The vagina was douched with perchloride of mercury (1 in 2000), and four grains of quinine sulphate were given every four hours. On the 4th the temperature was 101·2° and the pulse 130; there was some tenderness over the uterus and the secretion of milk was in abeyance; 8 c.c. of anti-streptococcic serum were injected into the abdominal wall. On the 5th the temperature was 99·4° and the pulse was 120. There was distinct improvement in the lochia and milk was secreted in small amount; the vaginal douches were continued; the perineal laceration looked healthy, but was not healed; 5 c.c. of serum were injected. On the 6th the temperature was 99·4° and the pulse 122; serum was injected in the same quantity as the day before. On the 7th the temperature was 98·2° and the pulse 120. The patient's general condition was satisfactory, but she was anæmic and weak; she, however, took her food well; the lochia were apparently natural, and no serum was used. On the 8th the temperature was 98·4° and the pulse 120; during the night there was profuse lochial discharge of a ruddy colour. On the 9th the temperature rose to 104° and the pulse to 140, the lochia became offensive, and there was great tenderness over the lower part of the abdomen. The uterus was douched with perchloride of mercury solution (1 in 4000), 10 c.c. of serum were injected, and hot fomentations were applied over the abdomen. On the 10th the temperature was 100° and the pulse 125; 5 c.c. of serum were injected. On the 11th the temperature was 100·4° and the pulse 124; the uterus was douched. On the 12th I left home for a holiday and Mr. W. F. Blewitt, my locum tenens, took charge of the case. According to his notes there was a rise of temperature on that day to 102° and then for the next ten days it remained about 100°. On my advice he continued small injections of serum daily for a week. Further progress was slow but uneventful. Mr. Blewitt noticed considerable exudation to the left of the uterus on June 18th.

Remarks.—In the first case the rapid and complete recovery which followed the first injection of serum need not be dwelt upon; no other treatment whatever was used after the serum was injected. In the second case the temperature did not become normal until after the third injection. Had the injections of serum been continued instead of being stopped on June 7th I believe the trouble which followed might have been avoided. The first patient became infected by the nurse, who, I afterwards discovered, had an offensive vaginal discharge. It is not so easy to account for the infection of the second case. If I was the means of conveying infection from Case 1 it was not due to want of care on my part, as I took great pains to render my hands (and person as far as possible) aseptic. The serum was supplied by the British Institute of Preventive Medicine.

Great Bardfield.

CASE OF ATTEMPTED POISONING BY TINCTURE OF OPIUM AND ANTIPYRIN; RECOVERY.

BY W. HERBERT GREGORY, M.D. EDIN.

ON July 18th last I was hurriedly summoned to attend a woman who had, while in a depressed state, taken overdoses of laudanum and antipyrin. On arriving at 5 A.M. I found her in an excited state, but she answered all my queries readily and distinctly. The temperature was 99° F., the pulse was 100, and the pupils were perfectly normal and contracted to light. By the patient's own statements, the evidence of her husband, and the bottles which contained the drug (now in my possession), I found that at 9.30 A.M. the day before (July 17th) she had taken eighteen drachms of tincture of opium, and at 10.30 P.M. on the same day from 60 to 70 grains of antipyrin. These drugs had been procured for toothache from several different druggists. Shortly before I arrived she had been slightly sick, but the vomit had been thrown away. I washed out the stomach and found that what came away smelled most strongly of laudanum. The recovery was perfect except for a slight amount of dyspepsia for a few days afterwards.

Into the cause which induced the attempt at suicide it is unnecessary to enter here. The important point is that there never had been any opium habit, and there is also no doubt whatever that both drugs were taken in the amounts stated. The curious point about the case is the long retention of the laudanum in the stomach without any marked symptoms. The only noticeable symptom was a slight unsteadiness of gait in walking across the floor on the afternoon of the 17th. This, the patient assured her husband, was due to her being "bilious." From 9.30 A.M. on the 17th to 5 A.M. on the 18th is nineteen and a half hours, and this, combined with the circumstance that antipyrin in a 60- or 70-grain dose (a dose highly depressant to the heart) was also taken without effect, makes the case almost an unique one. Cases are on record where opium has been retained in the stomach for nine, ten, and even eighteen hours, and in THE LANCET of July 15th, 1857, Dr. Gibbs published a case where 12 drachms of laudanum had been rejected spontaneously from the stomach after a lapse of nine hours without giving rise to any marked symptoms.

I am not aware that antipyrin is in any way an antidote to opium—at least, I have not seen it mentioned in the books; but, even allowing that it were, there was an interval of thirteen hours between the times of taking the two drugs. The case appears to me to be of interest, and I cite it to show that opium may be retained for hours in the stomach without giving rise to any noticeable symptoms.

Beverley.

THE EXTENSION OF THE BRISTOL BOUNDARIES.—On Nov. 1st, when the Bristol Boundaries Extension Act comes into operation, the population of Bristol, it is estimated, will be 317,833 and the acreage 11,397. The effect of the Act will cause a consolidation of authority, which means one council, one school board, and one board of guardians, instead of eighteen different authorities which existed before the passing of the Act.

EXPENDITURE AT THE CARDIFF INFIRMARY.—For some time past reports have gone abroad that the Cardiff Infirmary was managed upon very extravagant principles. We are glad to find, however, that from inquiries which have been made it appears that the average cost per bed on total expenditure is at Cardiff £50 1*s.* 4½*d.*, while at thirty-four similar institutions throughout the country it is £64 12*s.* 2½*d.* Thus there is a balance in favour of Cardiff of £14 10*s.* 10½*d.* Unfortunately, up to the present date donations have fallen off by £600 and the revenue from outdoor nursing has also decreased.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF STRANGULATED PARTIAL ENTEROCELE OF THE CÆCUM WITHOUT SYMPTOMS; FÆCAL FISTULA; RESECTION OF PART OF THE CÆCUM; RECOVERY.

(Under the care of Mr. ANTHONY BOWLBY.)

THE presence or absence of symptoms in constricted partial enteroceles seems to depend chiefly on the proportion of the circumference of the bowel which is included within the constriction. In the following case the portion of the bowel wall which entered the crural canal seems to have been only a small part of the circumference of the cæcum, so that its constriction had no influence on the functional activity of the intestine. The case was one eminently suitable for the treatment adopted, as the operation did not necessitate any interference with the continuity of the bowel. The perfectly aseptic course of the case shows how thoroughly a septic fæcal fistula can be disinfected.

A married woman, aged forty-six years, was admitted to Stanley Ward, St. Bartholomew's Hospital, on Nov. 7th, 1896, with a fæcal fistula in the right groin. For two years she had noticed a swelling of the size of a walnut in the right femoral region. The swelling was always more or less tender, and sometimes caused her considerable pain. She thought that it was always present, never disappearing, even at night time. Three months prior to her admission to the hospital the swelling suddenly increased in size, becoming about four inches long and two inches broad. It lay with its long axis parallel to Poupart's ligament, and was oval in shape. The skin over it became red and extremely tender. She noticed no unusual constipation at this time, but she was once sick. The application of hot flannels was the only treatment adopted. Three or four days later the swelling burst spontaneously, and discharged a stinking watery fluid of a yellowish colour. The patient felt much relieved by the bursting of the swelling. The discharge from the wound continued, and one month before admission she for the first time noticed a fæcal smell and some fæcal matter in the discharge. This was immediately preceded by some blood-stained discharge. During the three weeks which preceded her admission to the hospital she remained in fairly good health, and passed on an average three motions a week by the wound. The bowels were all this time regularly opened in the usual manner. She stated that she had always been a healthy woman and had never had any serious illness, with the exception of scarlet fever during her childhood. She had never had typhoid fever. She had suffered all her life from "wind" and constipation. On admission to the hospital she presented a fairly healthy appearance. In the right groin there was a sinus discharging thick fæces and a little pus. The opening of the sinus was one inch external to and below the pubic spine. The abdominal wall was extremely lax, and the moving coils of intestine could be readily seen. The urine was normal. On Nov. 20th the sinus was explored under an anæsthetic. The external opening was enlarged. A probe was passed upwards and to the right, and seemed to go straight into the lumen of the intestine. The sinus obviously traversed the crural canal. The walls of the sinus were well scraped and the cavity packed with iodoform gauze. This treatment produced practically no change in the condition of the fistula, which still discharged fæcal matter at irregular intervals. The bowels were opened per rectum by means of aperients and enemata. On one occasion the injection of a large enema was thought to produce an immediate increase of fæcal discharge from the fistula. On Dec. 4th the patient was shown at the weekly surgical consultations. It was suggested that the solid character of the fæces discharged from the fistula pointed to the large intestine being the part involved, and the opinion was expressed that as the discharge was certainly passing out through the crural canal, it was probably a case of strangulated hernia. As no improvement had resulted from laying open the sinus and packing its walls an operation through the peritoneal cavity was advised, and it was suggested that either an ulcerated aperture might be sutured, or that, if the cæcum showed evidence of tuberculous disease, it might be excised. The opinions of all those who saw the patient were unanimous in favour of the proposed course. On the 11th an anæsthetic was administered. The skin of the abdomen having been thoroughly cleaned the abdomen was opened by a vertical incision over the cæcum, its lower end being about three-quarters of an inch above the opening of the fistula. The small intestines having been pushed aside with a flat sponge, and the peritoneal cavity being protected by other sponges, the cæcum was drawn into the wound, and it was then seen that the fistula led into its lowest part, at a point just external to the base of the vermiform appendix. This part of the cæcum had been dragged down so as to form a pouch, and the latter was now carefully dissected away from its attachments in the crural ring and cut away from the cæcum, an opening being thus made in the cæcum about one and a half inches in length. The vermiform appendix seemed perfectly normal, but owing to the proximity of its base to the line of suture it was thought advisable to remove it. The opening in the cæcum was then closed by a continuous suture of its mucous membrane, and two rows of interrupted Lembert's sutures. The track through the crural canal previously occupied by the hernial pouch was thoroughly cleaned with perchloride lotion and the small piece of adherent intestine was dissected away. The mouth of the fistula in the groin was swabbed finally with pure carbolic acid. The peritoneal cavity was closed with silk sutures, two gauze drains being inserted, one in the lower angle of the incision, and one through the crural canal. The muscular walls and skin were sutured separately with silk-worm gut. The patient was afterwards a little sick during the first few hours, but stood the operation well. On the 12th the gauze drain was removed from the upper wound. Both wounds looked perfectly dry and healthy. There was no redness of the skin. The temperature had never been higher than 99·2° F. The patient seemed perfectly comfortable and complained of no pain. On the 17th the second gauze drain was removed. The bowels were opened for the first time since the operation with an enema. On the 24th all the stitches were removed. The upper wound was entirely healed. There was a shallow granulating ulcer in the situation of the lower wound. On Jan. 25th, 1897, the bowels were opened for the second time with an enema. On Feb. 13th the patient left the hospital, wearing an abdominal belt, with both wounds soundly healed. The feeding of the patient during the first four days was entirely by rectal enemata with the exception of very small quantities of water by the mouth. For the next week very little food was taken by the stomach, and such as was taken was calculated to leave but little residue in the intestine.

Remarks by Mr. BOWLBY.—Cases of strangulation of the cæcum alone without the involvement of any small intestine are rare, but in such cases as have come to my knowledge it seems that the symptoms of strangulation were well marked. In the present case there was but little of the cæcum strangulated, and there does not appear to have been any material colic or sickness in spite of the constriction of the whole thickness of the wall of the bowel where it was completely covered by peritoneum. There is but little to say of the operation itself, but it may be pointed out that the risk of resection of bowel and enterorrhaphy in such a case is mainly due to the presence of a septic sinus which at the time of operation has necessarily to be opened so as to communicate with the peritoneal cavity. It was by the resection of all the infected tissue, the disinfection of the sinus opening, and the subsequent packing with iodoform gauze that the peritoneum was efficiently protected. I am much indebted to my friend Mr. Lockwood for his kind assistance at the operation, and to my house surgeon, Dr. Meakin, for the notes of the case.

NORTH STAFFORDSHIRE INFIRMARY.

A CASE OF RUPTURE OF THE TRACHEA; NECROPSY.

(Under the care of Mr. J. ALCOCK.)

THE comparative immunity from injury enjoyed by the trachea is probably to be attributed in part to the great elasticity conferred on it by the presence of the cartilaginous

arches in its wall and in part to its mobility. As there was in the following case from the injury itself great probability of a septic infection of the tissues surrounding the trachea, an external opening would have added but little to the danger, yet the great amount of separation of the ends of the trachea must have rendered extremely difficult any attempt to suture them. The diagnosis, though extremely doubtful on account of the subcutaneous emphysema, was to some extent possible, as the very presence of air in the tissues showed that the air passages had been wounded. A laryngoscopic examination might have afforded some information. For the notes of the case we are indebted to Mr. A. S. Barling, late house surgeon at the North Staffordshire Infirmary, and now surgeon to the Royal Lancaster Infirmary.

The patient, a man aged twenty-four years, was admitted to the infirmary, under the care of Mr. Alcock, on April 20th, 1892, suffering from an injury to the chest and neck. About two hours before admission he was engaged in lowering heavy balks of timber by means of a crane, when one of the iron supports gave way. The man saw the beam of the crane falling on him, and threw his head back to avoid it, just at this moment—i.e., when the neck was fully extended and the trachea stretched tight—the beam struck him over the top of the sternum and knocked him down. He was not rendered unconscious, but seemed to be short of breath, and could only speak in a whisper. The patient was a strong, well-developed man. On admission he was slightly cyanosed, his breathing being laboured and occasionally stridulous. He was spitting up large quantities of blood, frequently in clots. On examination of the seat of injury a bruise was seen about six inches in diameter, the centre of which was over the upper border of the manubrium, and at this point the skin was scraped off. Round this bruise, covering the front of the neck and extending laterally to the coracoid processes and downwards to a point on a level with the fourth rib was a soft, diffuse swelling, which on palpation gave the characteristic crackling of surgical emphysema. It completely obliterated all the landmarks of the surface affected. No fracture could be made out, the clavicles, the ribs, and the sternum being apparently intact. It was quite impossible to feel the larynx or any part of the trachea owing to the emphysema. Ice was applied to the parts, and with a view to preventing, if possible, the supervention of septic pneumonia antiseptic inhalations were given. The bleeding soon ceased, but, despite all precautions, the temperature gradually rose, and on the third day reached 104° F. Signs of consolidation then appeared at the base of the right lung. The expectoration was blood-stained and amounted to a pint in the twenty-four hours. There was still marked tenderness over the episternal notch, but no sense of fluctuation could be felt, and there was no redness of the skin. In the course of the next few days the signs in the lung almost disappeared, the emphysema decreased, and the temperature fell to a daily maximum of 99°. The patient continued to improve and seemed to be nearly out of danger when, on the morning of May 1st, eleven days after the accident, he suddenly cried out, two or three pints of blood gushed from his mouth, and in less than two minutes he was dead.

Necropsy.—At the post-mortem examination a complete rupture of the trachea was found between the ninth and tenth rings. The ends were separated by about two inches, the upper end of the lower fragment being one and a half inches below the top of the sternum. An abscess cavity surrounded the injured portions capable of containing an ounce; it was filled with blood-clot. None of the large arteries were wounded, and it seems probable that the blood came from ulceration of a large vein, possibly the left innominate.

Remarks by Mr. BARLING.—Rupture of the trachea is certainly a rare accident, and on this account the above example seems to be worthy of record. Besides the cases mentioned in Holmes's "System of Surgery" there is one in the Sydenham Society's *Review* and a case is reported by Berger in the *Medical Times and Gazette* for 1856; this was caused by the kick of a horse and ended fatally in one and a half hours. Of the rest, only one—the Liverpool case—recovered. This was treated by incision. Looking back in the light of our present knowledge it seems as though the patient might have had a better chance of recovery if he had been operated upon. The propriety of cutting down upon the trachea and then proceeding as the conditions demanded was discussed, but the state of the man seemed so satisfactory that it was decided to wait. When the unfortunate rupture which caused his death took place the patient was certainly improving. His temperature had fallen to the normal and the expectorated pus had much decreased in quantity. If an incision had been made it would have given a more free vent to the discharge but anything in the nature of suturing the trachea would have been, I think, impossible, owing to the retraction into the thorax of the divided lower portion. In reporting this case, at Mr. Alcock's wish, I am trying to carry out the advice that our old master, Sir Richard Wiseman, so rightly gives. Speaking to a young surgeon in difficulties with an obstinate case he says: "He will then wish that all other practitioners had done what I have in this treatise—viz., recommended their observations both *successful* and *unsuccessful*, thereby encreasing knowledge in our profession and leaving sea-marks for the discovery of such rocks as they themselves have split upon before."

Reviews and Notices of Books.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish authors. Edited by W. F. NORRIS, A.M., M.D., and CHARLES A. OLIVER, A.M., M.D., of Philadelphia, Pennsylvania, U.S.A. Vol. II. With Thirteen Plates and 214 text Illustrations. London and Philadelphia: J. B. Lippincott Co. 1897. Pp. 556. Price $20.00, subscription for four volumes.

THE second volume of this important work is devoted to the Examination of the Eye, School Hygiene, the Statistics of Blindness, and Antisepsis. These several subjects are again sub-divided and discussed under various headings which we shall proceed to consider. The first is on the Methods of Determining the Acuity of Vision, by Hermann Snellen, of Utrecht, which has been translated by Dr. Berry, of Edinburgh. He explains the reasons which have caused the five minute angle to be selected as a standard, showing that an object subtending that angle fairly represents the average of normal visual acuity, with moderate illumination in middle life. It is, however, by no means the maximum since careful experiment has shown that the limit of visual acuity for lines does not exceed about fifty seconds, which corresponds to a retinal image having a diameter of 0·004 millimetre. Professor Snellen dwells upon the unsatisfactory nature of any statement made in regard to the vision of a patient when, instead of the equation $v = \frac{d}{D}$ where the numerator gives the precise distance at which the test type should be seen whilst the denominator gives the number and consequently the size of the type actually seen, the surgeon reduces the fraction to decimals, a method that fails to give either of the particulars required—giving, that is, neither the distance nor the number of the letters employed. He explains, however, that this notation is practised in Germany because the calculation of the amount of compensation for eye accidents has been based on this principle. Professor Snellen states that as a rule the visual acuity remains unaltered up to the age of twenty-five years. After that it slowly and regularly diminishes, so that in advanced life the measure of acuity is reduced to half of its original. The subject of mydriatics and myotics is also from the pen of Professor Snellen. He gives a useful caution against the employment of solutions of atropine which are too strong or too persistently used, or which have been kept too long. Solutions freshly made of from one to two grains per ounce fulfil all the indications, dilating the pupil fully and paralysing the accommodation. He himself uses atropine in solution of one-half per cent. with the addition of boric acid, and has never observed the condition known as atropism to follow its use. The relative power of the several and now

very numerous remedies acting on the iris and on the ciliary muscle is very fully given.

The next article is on Lateral Illumination, by L. Laqueur, M.D., of Strassburg, translated by Harry Friedenwald, M.D., of Baltimore. The author describes the method of employment of this means of examination of the eye, its advantages and limitations both in health and disease. It is, of course, chiefly serviceable in affections of the cornea, iris, and more particularly in the demonstration of fragments of capsule occupying the area of the pupil after cataract operations and the presence of foreign bodies in the anterior chamber or on the surface of the lens.

The subject of the Ophthalmoscope has been committed to the competent hands of Dr. George M. Gould, of Philadelphia, who has compressed all that is required into a very moderate compass. He gives an historical account of the development of the instrument, and considers the most perfect form hitherto devised to be that of Dr. Morton, of London.

Dr. Edward Jackson, of Philadelphia, is the author of the article on Skiascopy. He is well known as having paid great attention to the phenomena of the reflection of light from the fundus of the eye, and he gives, as might be anticipated, a very clear and intelligible explanation of the various appearances seen in myopia, hypermetropia, and in astigmatism.

The sixth chapter is by M. Adolphe Javal, junior, of Paris, on Ophthalmometry and its Clinical Applications. It contains, of course, a full description of the ophthalmometer of Javal and Schiotz, an instrument that has proved of great service in enabling the practitioner to determine rapidly and, what is of still greater importance, accurately the degree of corneal astigmatism that may be present in the eye examined. The number of those who suffer from astigmatism is very considerable. Of a total of 226 children 69 were demonstrated by this instrument to have astigmatism of at least one dioptre in each eye—that is, of a grade so high that it ought to have been reported to the parents with a warning as to the necessity of calling in the aid of an ophthalmic surgeon. The use of a Placido's disk is given, and various drawings exhibit the reflections seen in normal and diseased eyes.

The next chapter is on Prisms and Prismometry, by W. S. Dennett, M.D., of New York, an original and well-written essay on a subject that is very briefly and imperfectly treated in most of the modern works on ophthalmology. A section on the principles of, and the methods for, the estimation of the balance of the extra-ocular muscles has been undertaken by Dr. George T. Stevens, of New York, and in this the reader will find an explanation of the various terms that are making their way from America into ophthalmic terminology, such as orthophoria, heterophoria, heterotropia, and anotropia or katotropia. Dr. Stevens has himself devised an instrument, to which he has applied the name of phorometer, which he describes and illustrates, as well as the prism of Maddox and the stenopaic lens of Stevens. The author of this chapter takes the standard of abduction to be a prism of 8° the effect of which can be overcome—that is to say, the two images of which can be fused.

Dr. Herman Wilbrand takes up Perimetry and contributes a long and valuable article, in which the modes of obtaining the field of vision are described and some remarkable conditions mentioned. The author has devised an ingenious modification of the ordinary instrument, which resembles a reading desk, and which he terms a bed perimeter. It is adapted for taking the field of a patient in bed. The clinical value of perimetry is judiciously but strongly insisted on. The article is illustrated by a chromolithograph showing the most important combinations of the visual paths, as described by Henschen.

The next article, one of the *pièces de résistance* of the volume, is by Dr. Wm. Thomson, of Philadelphia, assisted by Dr. Carl Weiland, of the same city, and is devoted to the detection of colour blindness. The authors consider that with regard to congenital colour blindness, the fault lies in the photo-chemical substances in the retina, or at least that it is located in front of the chiasma, since cases of monocular colour blindness are on record. On the contrary, acquired colour blindness, they believe, is more apt to be due to lesion of the optic nerve or of the cerebral centres. It is stated that even yet in America, as in England, although nearly a million of men are employed on railways, amongst whom there must be at least 30,000 who are colour blind, no adequate provision is made for testing the colour vision, notwithstanding the manifest danger to the public from misapprehension of signals.

Dr. S. D. Risley, of Philadelphia, gives a good account of School Hygiene, a subject far too much neglected in this country. Speaking of the effects of education in the etiology of myopia Dr. Risley states that from careful observation, continued over long periods of time, of many cases of myopia, all those he has followed out, without exception, passed from hypermetropia into near sight; through the turnstile of astigmatism. In all of them the observed changes in refraction were attended with pain and symptoms of external irritation, such as blepharitis, conjunctival congestion, lacrymation, undue sensitiveness to light, whilst the ophthalmoscope revealed the advancing pathological changes in the choroid. In no instance did the eyes become at any period emmetropic. Dr. Risley gives the results of an investigation undertaken by competent observers, to each of whom was assigned a definite part in the examination of every pupil, of the eyes of the children in the various grades of the Philadelphia public schools. The results which are given, in part in the form of tables, are highly interesting and instructive, and demonstrate that all children who complain of their vision should be examined periodically, and measure both in the way of glasses and of amount and kind of work instituted for their relief. The subject of blindness has been placed under the care of Dr. J. Ninnis Hays, of Philadelphia. The statistics of the blind in various countries are fully given, though some error must have crept into the statement that the population of the whole world is below 210 000,000. The population of Russia, England, France, and Germany alone would more than cover that number. The statement is copied (correctly) from Cohn, who takes it from Mayr. It is of importance, since deductions are drawn from it which also work out incorrectly. The number of blind in England and Wales has considerably diminished during the last forty years, which we may hope is due to better teaching given and knowledge obtained in our hospitals. Dr. Joseph A. Andrews, of New York, takes up the subject of Antiseptics, and the volume concludes with an article written conjointly by Dr. Joseph McFarland, of Philadelphia, and Dr. Samuel S. Kneass, of Philadelphia, both articles dealing with germs and their varieties, and with the modes of preventing their injurious influence. There is an excellent index.

Atlas der Gerichtlichen Medizin. (*Atlas of Forensic Medicine.*) Von Hofrat Professor Dr. E. KITTER VON HOFMANN, Director des Gerichtlich-Medizin. Instituts in Wien. München: J. F. Lehmann. 1898. Fifty-six coloured and 193 plain Illustrations. Price 15 marks.

LECTURES at our English Medical Schools on Medical Jurisprudence are as a rule not very satisfactory, owing to the want of practical experience on the part of the lecturers. At some of the London schools there are notable exceptions, but in most instances the lecturer has to draw the materials for his course from books alone. The student has to rely almost entirely on the lectures and books, for it is an uncommon occurrence for a case of real medical legal interest

to be taken to the hospital, and even if an injured person be admitted to the wards of a hospital the case is presented to the students from a surgical rather than from a forensic point of view. The illustrations in our English text-books are poor compared to some of the foreign productions. The work now under consideration is one of the excellent "hand atlases" published by J. F. Lehmann, of München. Like its predecessors, reviews of which have from time to time appeared in our columns, the whole book is most excellently produced. The main feature is the illustrations, and of these we cannot speak too highly. That some of them are ghastly goes without saying, but they admirably serve the purpose for which they are intended—namely, to act as a companion to one of the ordinary text-books. Professor von Hofmann states in his preface that the "atlas" is not intended to take the place of a text-book and therefore no systematic discussion of the subject is attempted. Typical examples of the various problems which present themselves to the medical jurist are taken, and an illustration in colour or in black and white accompanies the text.

We trust that an English translation will speedily be prepared, and feel sure that students and practitioners will gain much information by a study of its pages.

LIBRARY TABLE.

The Analysis of Food and Drugs. Part I., Milk and Milk Products. By T. H. PEARMAIN and C. G. MOOR, M.A. London: Baillière, Tindall, and Cox. 1897. Price 5*s.*—This work promises to be an admirable work of reference on all that pertains to the analysis of food and drugs. The number before us is only the first part of the work, which, when complete, will be divided into five parts. Apparently, the object of issuing the parts separately in this way as they are written is to keep each portion as far as possible up-to-date. Whether or not this object will be gained will depend, of course, upon the time the authors mean to take to complete their task, as it may be that when the final sections are finished the earlier sections may require adding to, especially if the improvements in analytical methods go on at the present rate. The work is very clearly written and bears strong evidence of the authors practical acquaintance with the "up-to-date" methods they describe. We look forward to the issue of the succeeding sections, which Part I. leads us to hope will be equally ably treated. Mr. Pearmain and Mr. Moor have begun their task well, and when they have finished it a valuable addition to analytical literature will, if we mistake not, have been made.

Artificial Anæsthesia: A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By LAURENCE TURNBULL, M.D., Ph.G. Fourth edition. Philadelphia: P. Blakiston. 1896. Illustrated. Pp. 550.—This book contains a large amount or information about anæsthetics and many other things. It is not always easy to find the kind of information required, as the arrangement is not good. Dr. Turnbull prefers to quote the writings of many writers, with a result which is wearying to the reader, who often would prefer to get the underlying fact without the superimposed mass of words. The author is well abreast of the time, and gives the views of the Hyderabad Commission on Chloroform. Although he questions their truth, he describes the use of oxygen with nitrous oxide, and the very latest local anæsthetic. Therapeutics occupy a prominent place in the book. The employment of ether in gout, spasm of the stomach, tapeworm, and other ailments is fully set forth. A good chapter on the medico-legal aspect of the uses of anæsthetics is added. We venture to think that Dr. Turnbull would be well advised if he cut out many of the so-called experiments in future editions and condensed and verified most of the quotations. The undoubted value of Dr. Turnbull's work is also somewhat marred by insufficient care in verifying names. The present is, in spite of these drawbacks, a distinctly better book than the preceding edition.

The Induction Coil in Practical Work, including X Rays. By LEWIS WRIGHT. London: Macmillan and Co. 1897.—All workers with the x rays should be in possession of a copy of this little volume. In it is contained a plain and intelligent exposition of that mysterious entity electricity, and the properties of the electric discharge in low and high vacua, leading, of course, to a consideration of the phenomena of the x rays which emanate from the highly exhausted Crookes's tube. It is essentially a practical book, in which the eccentricities of the induction coil are dealt with and the way to correct them, so that the experimenter may know perfectly well what he is doing in using the x rays for diagnostic work.

Practical Domestic Hygiene. By J. LANE NOTTER, M.A., M.D. Dub., and R. H. FIRTH, F.R.C.S. Eng. London: Longmans, Green, and Co. 1897. Price 2*s.* 6*d.*—Hygiene is a wide subject, and the fact that they have dealt with it intelligibly in the space of the admirable little work before us is an accomplishment upon which the authors are to be congratulated. The subject is treated in three parts—Part I. relating to Elementary Human Anatomy and Physiology; Part II. to Elementary Hygiene (water, air, ventilation, food, diet, sewage, personal hygiene, parasitic and infective diseases); and Part III. to Domestic Economy (the care and management of the sick, and "first aid" in emergencies and accidents). As might be expected, Part II. is the largest section. The descriptions are perfectly accurate, clear, and in accordance with modern developments. Particularly will this be noticed in regard to the accounts of the methods now in vogue of ventilation and of the disposal of sewage and of house refuse and excreta. The work is primarily intended for those who wish to acquire a knowledge of elementary hygiene but who possess the merest smattering or no knowledge at all of physiology. The previous portions of the work are therefore devoted to a short and simple account of elementary anatomy and physiology, but there is no similar chapter on chemistry. We are inclined to think that this in an elementary work is a serious omission, since, of course, the reader is subsequently brought to consider the subject of diet, and without an elementary knowledge of chemistry his appreciation of the subject as well as of other related subjects will somewhat suffer. The whole subject, however, in its broader aspects is presented in a way which cannot fail to be instructive to the reader possessing ordinary intelligence. We could wish that such a course of instruction were insisted upon in all elementary schools; the present book would serve as an admirable companion to such a course.

A New Dairy Industry. By JAMES FRED. SARG. Norfolk, U.S.A.: W. T. Barron and Co. 1896. Pp. 162.—It is well known that the principal difference from a dietetic point of view between human milk and cow's milk is that the latter contains about four times as much casein as the former, and that most methods of preparing cow's milk for infants' use consist in reducing the proportion of casein and increasing that of sugar. Furthermore, cow's milk is liable to be contaminated with impurities of various kinds, and sometimes contains pathogenic bacteria. This little book, the sub-title of which is "Preparation and Sale of Artificial Mothers' Milk, Normal Infants' Milk," describes the methods followed in Mr. Sarg's dairy at Black Forest Farm, Kempsville, Virginia, and supplies much varied information, useful alike to consumers and purveyors of milk. In this establishment the excess of casein is reduced by dividing the milk into two parts, one of them consisting of mixed milk and cream and

the other of skim milk, which latter is coagulated and the resulting whey added to the other portion; the mixture is then bottled and sterilised by steam heat.

The Story of Vaccination. By ANNABELLA MARIA BROWNE. London: Gardner, Darton, and Co. 1896. Pp. 12. Price 1*s.*—The author of this booklet has described the benefits of vaccination with much clearness and force, as well as with commendable brevity, and in a style which can be easily followed by all classes of readers. She is president of the Gloucester and Bristol Branch of the Girls' Friendly Society, which she says has had among its members several descendents of the family of Sarah Nelmes, the dairymaid from whose hand Jenner took the lymph for his first vaccination in 1796. Writing in the centenary year after this event, and not long subsequently to the Gloucester epidemic of small-pox, she is able to contrast the ravages of the disease in former times with the comparative immunity which we now enjoy. "The Story of Vaccination" deserves to be widely known, and will recommend itself to those who are desirous of influencing public opinion in favour of vaccination.

Calendar of the Faculty of Medicine, McGill University, Montreal. Montreal. 1897. Pp. 148.—The educational work of McGill University is carried on principally in McGill College, Montreal; there are, however, six affiliated colleges—namely, four theological colleges in Montreal, Morrin College, Quebec, and St. Francis College, Richmond. At McGill College there are five faculties, in each of which various degrees are granted—namely, arts, applied science, medicine, law, and comparative medicine, together with veterinary science. The complete course of study in medicine extends over four sessions of about nine months each, and leads to the degrees of M.D., C.M. The total fees for the whole medical course, including clinics, laboratory work, dissecting material and reagents, are $400, payable in four annual instalments of $100 each. Last session there were 388 students in the medical faculty, and 76 passed the examinations for the degrees of M.D., C.M. The sixty-fifth session of the medical faculty was opened on Sept. 21st, and will be continued until May 27th, 1898.

Instruments Used in Surgery and Medicine. Compiled by N. H. MARTIN and C. E. STUART, B.Sc. Newcastle-on-Tyne: Brady and Martin. 1897. Pp. 548.—In this book, which is the latest catalogue issued by Messrs. Brady and Martin, there will be found illustrations of a large and varied collection of instruments and appliances adapted for use in every department of medicine and surgery, whether for operative procedures or for diagnosis. There are also illustrations of galvanic apparatus, Roentgen ray apparatus, meteorological instruments, apparatus for the analysis of air, milk, and water, and a variety of miscellaneous articles which may be summarised as sick-room appliances. The book has a handsome appearance and will be found useful as a work of reference.

JOURNALS AND REVIEWS.

The Journal of Physiology. Edited by MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXI., No. 6, and Vol. XXII., Nos. 1 and 2. July and September, 1897. London: C. J. Clay and Sons. No. 6, Vol. XXI., price 4*s.* Nos. 1 and 2, Vol. XXII., price 10*s.*—The last number of the twenty-first volume of this journal contains two articles. 1. John Fawcett and W. Hale White on the Influence of Artificial Respiration and of β-Tetrahydronaphthylamine on the body temperature. These experiments show that this drug has a remarkable pyretic action, 3 c.c. of a 3 per cent. solution when subcutaneously injected raising the temperature of rabbits from 1·6° C. to as much as 5·5° C. 2. H. M. Vernon on the Relation of the Respiratory Exchange of Cold-blooded Animals to Temperature, Part 2, with 14 figures in the text. Amongst other conclusions the author draws from his experiment is the following, that in cold-blooded animals the carbonic acid discharge does not increase and decrease uniformly with increase and decrease of temperature. The following articles are contained in Nos. 1 and 2 of Vol. XXII. 1. C. R. Marshall on the Antagonistic Action of Digitalis and the Members of the Nitrite Group, with nine figures in the text. 2. C. R. Marshall and H. Ll. Heath on the Pharmacology of the Chlorhydrins: a contribution to the study of the relation between chemical constitution and physiological action, with eight figures in the text. The authors show that the introduction of chlorine atoms into a compound of the fatty series increases its narcotic powers. 3. Purves Stewart, on Experimental Observations on the Crossed Adductor Jerk. It is shown that the adductor jerk of the opposite side to that on which the ordinary knee-jerk is evoked is a true reflex. The appearance of the the crossed adductor jerk is about 0·126 second after the tapping of the opposite patellar tendon. 4. J. C. Dunlop, D. Noel Paton, R. Stockman, and Ivison Maccadam, Massage, on the Metabolism. Amongst other results on the Influence of Muscular Exercise, Sweating, and the like, their experiments show that with excessive muscular efforts there is increased katabolism of proteid shown by increased excretions of nitrogen and of sulphur in the urine. The proteid consumed is muscle proteid. They show also that training is of much importance. 5. A. B. Macallum, of Toronto, on a New Method of Distinguishing between Organic and Inorganic Compounds of Iron. 6. C. B. Davenport, of Harvard University, and Helen Perkins, student in Radcliffe College, a Contribution to the Study of Geolaxis in the Higher Animals. 7. Swale Vincent, on the General Physiological Effects of Extracts of the Suprarenal Capsules. 8. D. Noel Paton, on a Further Study of Hepatic Glycogenesis. 9. W. H. R. Rivers, on the Photometry of Coloured Paper. 10. William J. Smith Jerome, on the Formation of Uric Acid in Man and the Influence of Diet on its Daily Output.

The Practitioner.—The first of the original papers in the September number is the continuation of Dr. Herman Weber's paper upon Health Resorts and Waters for the Anæmic. Anæmia being a condition which arises from a great variety of causes must be treated in a correspondingly varying manner, and Dr. Weber's paper will be found very valuable as a guide to the choice of the right water for the special class of anæmia under consideration. Mr. Mayo Robson, in a short but interesting communication pleads earnestly for an early performance of gastrostomy instead of waiting until the patient is reduced by pain or starvation to a state in which the operation is practically useless. He gives details of the plan he prefers—a modification of the Ssabanejews-Franks method. Surgeon-Captain B. H. F. Lewmann publishes a case of Plague Simulating Enteric Fever, the temperature at death reaching 106·2° F. Dr. F. E. Hare, in his paper on Ten Years' Experience of the Cold Bath Treatment of Typhoid Fever at the Brisbane Hospital, quotes figures showing a reduction in the mortality of practically 50 per cent. since the use of the bath began. Dr. F. C. Coley has a practical paper on the Medical Treatment of Toothache. Mr. Hawkins-Ambler contributes a paper upon How to Help the Hospitals, his chief idea being that there should be a series of central bureaux at which applicants for hospital relief should apply in the first instance. The hero of medicine for the month is that extraordinary mixture of science and charlatanry—Paracelsus.

THE WATER-SUPPLY OF TAUNTON.—At the meeting of the Taunton Town Council held on Sept. 14th the Water Committee stated that they had instructed the town clerk to give the necessary notice prior to application being made for the sanction of the Local Government Board to the borrowing of £35,100 for the extension of the waterworks.

New Inventions.

NEW STRICTURE DILATOR.

MESSRS. ARNOLD AND SONS (of West Smithfield, London) have constructed for me an instrument which I hope will be appreciated by the profession. The troublesome and painful system of passing catheters and bougies for strictures ought certainly to be superseded by some procedure less irritating to the patient and more convenient to the practitioner.

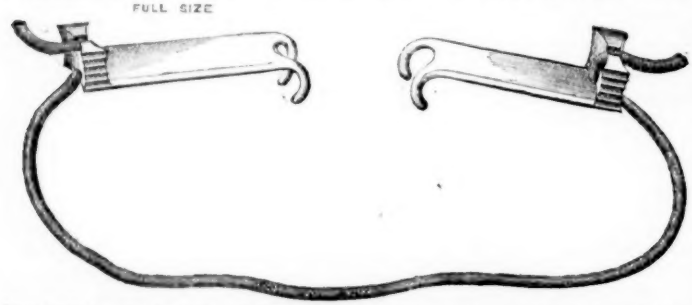
The instrument illustrated here consists of a director, a propeller, and twelve beads. The director is a flexible metal stem terminating in a bulb, the stem being marked at every half inch. The propeller, which is used to push the beads along the director, has a terminal bulb (perforated), a handle, and a metal ring with hole to receive director and screw to clamp it. The beads are made of metal and represent the different catheter gauges. The director is passed first, then one or more beads are threaded on it and pushed home. The instrument may then be fixed and withdrawn. Possibly in resilient and other strictures the act of drawing the instrument back and forwards would have a good effect. The exact position of the stricture can be ascertained by passing a bead as far as the stricture and then clamping the ring at the orifice of the urethra.

THOMAS JACKSON, L.R.C.S.Edin.
Colwyn Bay.

AUTOMATIC WOUND RETRACTORS.

THE accompanying illustration represents a pair of wound retractors threaded on a rubber cord, and designed to obtain traction on the edges of a wound in operations on the neck, limbs, &c. Each retractor consists of a flat piece of steel, one end of which is fashioned into a pair of hooks, blunt or sharp. The other end is bent upwards, is perforated at the angle by a hole through which the rubber cord passes, and the latter is then clipped into a vertical slot after the manner of fixing the ends of a field tourniquet. The instrument may be held or altered in position by grasping the grooved side of the "handle" portion. To use the retractors (say, for excision of a varicose vein of the leg) thread one on each end of a long length of rubber cord or thick tubing and lay its centre beneath the limb; after the skin incision hook a retractor into the wound edges on either side, making the tension sufficient by drawing the cord through the base of either hook and fastening off. Equal or unequal gaping of the wound may be secured by altering the tension on both sides or on one only. The retractors are made of varying sizes and lengths, and with blunt or sharp hooks as desired, but for retracting the abdominal parietes the proximal end is fashioned like a flat pothook but without prongs. For tracheotomy and operations on the middle line of the neck, operations on blood-vessels of the limbs, abdominal sections, and in any situation where bilateral traction can be employed, these retractors will be found useful, especially where one is short-handed as regards assistants.

FULL SIZE



Some of the advantages possessed by these hooks are:—Less handling of the wound is required; more room is obtained in which to work, and less assistance is necessary; it is, therefore, more easy to maintain asepsis. I am indebted to Professor Jordan Lloyd, of Birmingham, for permission to modify his well-known retractors, and to Messrs. Down Bros., of St. Thomas's-street, London, S.E., for the care and patience they have displayed in carrying out my wishes.

REGINALD H. LUCY, M.B. Edin., F.R.C.S. Eng.,
Assistant Surgeon, South Devon Hospital, Plymouth.

NEW ANÆSTHETIC MASK.

THE annexed illustrations represent a chloroform or A.C.E. mask devised by me and made by Messrs. Mayer and Meltzer, of Great Portland-street. The mask consists of a metal frame, with upper and lower rims, the latter being channeled so as to prevent condensation-moisture or anæsthetic fluid reaching the patient's face. A and B (Fig. 1) represent the open position of two rings which, when closed as in the illustration, keep in place two pieces of flannel. At C there is an airway the lumen of which is quite double that of the adult trachea. At D (Fig. 2) there is an opening for the tube of a Junker which can be attached to a vulcanite plug filling the opening. This tube is supplied with the mask. Also, to the flannel at E a sponge can be affixed if it be desired to give ether, in which case a single piece of flannel large enough to cover the mask from E to F should be used. The advantages of the mask are:—1. It allows a free intake of air at all times during anæsthetisation, so that with ordinary care coughing and swallowing, struggling, asphyxia, &c., are noticeably absent. 2. The position and dimension of the airway, which, while permitting absolutely unimpeded respiration, is so placed that with each inspiration the vapour is inhaled in amounts varying with the quantities of anæsthetic used. 3. The ease with which the anæsthetic can be dropped on the mask without risk of touching the patient's face. 4. Its cleanliness. The covers for the upper

Fig. 2.

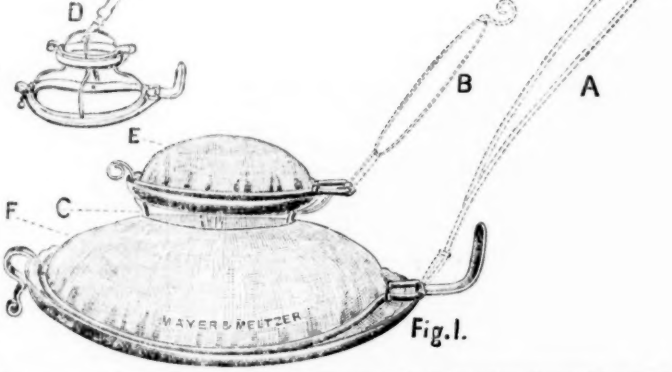


Fig. 1.

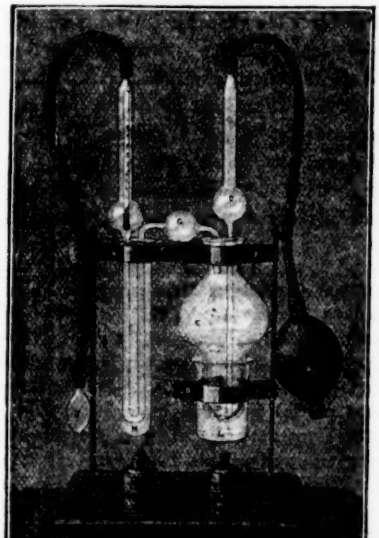
and lower parts consist of flannel (sterilised when necessary) cut to shape; these can be put on or removed in a few seconds; the frame, being all of metal, can obviously be completely sterilised—matters of considerable importance in the case of operations on the head, neck, thorax, &c. 5. A chloroform administration can, if desirable, be commenced by using with this mask a drop bottle, such as Thomas's, &c., until the patient is well into the second stage, when the remainder of the anæsthetisation can be continued with a Junker (attached to the mask in the first instance). The anæsthetist who knows the difficulty of getting a nervous or alcoholic patient comfortably under within a short period possesses in this apparatus the means of accomplishing that end with safety and satisfaction. The patient also hears nothing of the bellows and the bubbling of the Junker. This latter consideration is by no means unimportant when one bears in mind how desirable it is to avoid adding to the natural fears of a child or neurotic patient.

WILLIAM E. BURTON, L.R.C.S.Irel., Lic. Med. T.C.D.

THE PNEUMATIC MEDICATOR AND INJECTOR.

MEDICATED AIR has been in use in America for some years for the treatment of catarrh of the head, ears, nose, throat, and lungs with marked success, and especially for the cure of catarrhal deafness. It has lately been introduced into Great Britain and has been equally successful. But it appeared to me that better results would be obtained in many cases—such as bronchitis and phthisis—if the temperature of the medicated air could be raised or lowered, made dry or moist, as the conditions of the case required,

Instrument for Producing Hot or Cold, Dry or Moist, Medicated Air.



A, Rubber blowing bulb. B, Rubber tube connecting blowing bulb with straight glass tube. C, Straight glass tube. D, Reservoir for holding medicine. E, Air chamber for medicated air. F, Rubber cork for holding glass tubes. G, Long bent glass tube containing thermometer. H, Thermometer in long bent glass tube. I, Rubber tube connecting long bent glass tube with mouth- or nose-piece. J, Glass nose- or mouth-piece. K, Spirit lamp for heating water baths. L, Water bath for heating medicine in reservoir or for cooling medicine by filling with ice. M, Water bath for heating medicated air in long bent glass tube which passes through it. N, Stand containing spirit lamp. O, Holder for supporting water bath. P, Holder for supporting air chamber and reservoir. R, Holder for supporting long water bath.

as up to the present the medicated air has only been used in a dry state at the temperature of the room in which the patient used the instrument. To meet these requirements where better results would be obtained by raising or lowering the temperature and making the heated medicated air dry or moist, I have constructed an instrument with which the patient can either use the medicated air at the temperature of the room in which the instrument is used or the temperature can be raised or lowered, and the heated medicated air can also be made dry or moist as may be required by the nature of the case.

D. JOHNSTON, L.R.C.P. Edin., &c.

NINETEENTH REPORT OF THE GENERAL PRISONS BOARD, IRELAND.

IN his work on "Penological and Preventive Principles" the secretary of the Howard Association has referred in complimentary terms to the successful methods employed in the management of the Irish prisons. That the same policy is still being pursued is apparent from a perusal of the present report, which contains evidence that the Irish Prison Commissioners are concerned in maintaining a high standard of efficiency in the administration of the establishments under their charge. It is more than probable that the satisfactory state of affairs revealed in the report is in a measure due to the fact that one of the members of the Irish Board is a representative of the medical profession. In this respect both the English and Scottish Boards labour under a distinct disadvantage, for there can be no doubt that the question of the treatment of the criminal is gradually but surely assuming a more scientific aspect. His physical and psychological peculiarities are being extensively and exhaustively studied, and the relations of insanity and crime are constantly attracting attention. The health of prisoners, mental as well as bodily, their dietary, and their sanitary surroundings are matters of weighty importance, deserving special recognition and requiring skilled supervision. The report now under consideration is the record of a year's quiet and uneventful work. The course recently adopted in England of amalgamating the statistics of the local and convict prisons has been followed here. There has been a slight increase in the number of criminal prisoners committed to local prisons. The behaviour has been good, and it is gratifying to note a gradual diminution in the number of prison punishments during the past few years. The death-rate was remarkably low—viz., 2·56 per 1000. One suicide is reported. Three cases of typhoid fever occurred, but it is mentioned that the disease was incubating when the prisoners were admitted. Sixty-two prisoners were released on medical grounds; they included the cases of twenty-three women far advanced in pregnancy. There were 103 cases of insanity, being 28 in excess of the number in the previous year. Eighty were found to be insane on reception, and the remainder whilst undergoing sentence. Particulars of the individual cases are given in Table XIV. As it stands, this table is not of much practical value. With further detailed analysis and subdivision it would undoubtedly prove useful, both from a psychical and medico-legal point of view. The average daily population of the local prisons was 2335; that of the convict prisons was only 429. The conduct of the long sentence prisoners seems to have been exemplary, and in no instance was corporal punishment resorted to. One convict died, ten were released on medical grounds, and six became insane and were transferred to the Central Criminal Asylum at Dundrum. The number of juveniles convicted and sent to prison is annually becoming less. Special rules have been adopted for their treatment; the operation of these rules ought to prove beneficial. The whole report affords evidence that the duties of the Board are being discharged in a creditable manner.

CLINICAL DEMONSTRATIONS TO PRACTITIONERS.—At the request of the Glasgow Town Council the visiting physician to the city fever hospital at Belvidere has agreed to give a series of clinical demonstrations on the cases of small-pox under treatment in the hospital. The demonstrations are free to all practitioners who conform to the conditions as to re-vaccination and such other precautions as are very properly demanded. There can be no doubt that this arrangement will be welcomed by the profession, and all the more so that—fortunately from a public point of view—opportunities for seeing small-pox are now so rare in the city.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 25, 1897.

THERE is one sentiment in regard to the vacancy in the Direct Representation (for notwithstanding Dr. RENTOUL'S withdrawal of his resignation the vacancy remains) which seems to prevail in all quarters—namely, that the position of Direct Representation is a critical one, and that unless the profession can contrive to show more interest in it and to return with some approach to unanimity a man of power and one who can coöperate amicably with the General Medical Council, even as at present constituted, the prospects of any early extension of the principle in legislation may be abandoned. Wherever two men meet and discuss this subject it is with a feeling that Direct Representation is not working satisfactorily or in a way to induce practical statesmen to multiply the number of elected members of the General Medical Council. We do not look upon this as a permanent feeling. It will pass away with a larger experience in the profession of its own members and a greater familiarity with the questions of medical education and medical conduct with which the General Medical Council has to deal. It is unreasonable to expect that registered general practitioners, busily occupied in their own particular duties, should all at once realise the functions of the General Medical Council, or estimate the kind of representative whom they should send to the Council. The painful want of readiness in the profession to meet and deal with an emergency such as has arisen from the unexpected resignation of one of its Direct Representatives is emphasised by one circumstance. The vacancy occurs when everybody is supposed to be taking holiday. But this only brings into clearer light what was manifest enough before—that there is a want of organisation in the profession. Efficient organisations and associations do not take holidays. They should be always in evidence.

For the purpose of the imminent election to the General Medical Council we are 22,000 separate units, and the enthusiasm of the profession for Direct Representation has never yet been demonstrated, as far as we know, by a meeting of a hundred persons. We see no immediate sign of any efficient organisation for this purpose. And yet the occasion is an urgent one. The Medical Acts are in need of amendment; the public is duped with quackery; the profession is overcrowded beyond all public necessity or advantage; its members, after the most exacting and exhausting processes of education and examination, are unprivileged and unprotected from the grossest forms of competition; and loose systems of registration permit the public to remain ignorant of the fact that numbers die without receiving any proper medical attention. A wise and efficient Direct Representative can certainly advance the remedy of these evils. It only remains for the members of the profession individually to recognise their own responsibility. We repeat that in our opinion the doubt and apathy about Direct Representation are transient and will pass with time and a larger experience of the duties which such a system imposes. The very men who have most abstained from using their votes should now determine to use them and urge all their friends to do likewise. They are numerous enough to decide the election and to return such a member as will be a credit to the principle of Direct Representation. The list of candidates is not, perhaps, yet complete, but it must soon be so, and it will not be without the names of one or two candidates who would justify the concentration of the votes of the profession. What we plead for now is this concentration—that there be no repetition of the indications of indecision and division and abstention which were so apparent at the last election. The present vacancy is a huge inconvenience and expense to the Council. But it will not be an unmixed evil if it results in the restoration of the comparative unity of the profession and in the return of a Direct Representative who is in sympathy with the practitioners of the country and who is prepared to use the present Medical Acts, in so far as they are efficient, for the good of the public and the profession, while he is determined, wherever they are defective, to promote their amendment in a spirit of moderation and medical statesmanship.

THE annual Congress of the Sanitary Institute, which has just been held at Leeds, has done some good and useful work. During the course of the debates the remark was made that in regard to sanitary reform it was more necessary to educate than to legislate. It is an old and true axiom that peoples have the governments they deserve. Even under the most absolute despotism it is the people who make the government and not the government the people. So in respect to the laws for the protection of public health, such laws only are effective which the public thoroughly appreciate and approve. Therefore the first step is to educate the people, and in this respect we are not only pleased to note the holding of such congresses as those organised by the Sanitary Institute, but also that the proceedings at these meetings are very fully and ably reported by the local press. Further, great good is done during the Congress week by the holding of public meetings where men of science attending the Congress deliver, in simple and popular language, addresses on public health questions. While, however, we thus fully acknowledge the paramount importance of educating the people in matters appertaining to the preservation of health, it would be a great mistake to conclude that the ignorance or

indifference of the masses is the only obstacle in the way of sanitary reform. During the course of the debates a good deal was said concerning the disposal of sewage and the pollution of water-courses. This is a question which more particularly affects the great manufacturing towns and districts of Lancashire and Yorkshire. No one can deny that, for instance, the Manchester canal is a national scandal. This magnificent engineering achievement is polluted by the drainage of seventy sanitary districts; and what should be a noble water-course is nothing better than an open and foul sewer. Yet it would be manifestly unfair to blame the people for the disgraceful condition of the Manchester canal. The cause of the evil may be roughly described as twofold—namely, the supineness of the local authorities and the greed or selfishness of the local land-owners. The members of the local boards can scarcely plead ignorance as their excuse. The real fact is that these authorities are composed, in the main, of manufacturers who are themselves the principal polluters of the four watersheds that feed the Manchester canal. The people have no objection to the purification of the waste waters from factories and mills; it is the mill-owners who wish to avoid the necessary expense. On the other hand, when, reluctantly yielding to pressure from the Local Government Board and to the outcry of public opinion, these local authorities have made some attempt to deal with their sewage, the land-owners have either refused to sell the land required for such treatment or have demanded a prohibitive price. A good excuse for doing nothing at all was thus supplied to those authorities, who were too often only too pleased to avail themselves of any pretext for shelving the whole question. In a series of special articles which we published in October and November, 1893, this condition of affairs was set forth in full detail. Consequently we are compelled to conclude that if the people want educating as to the facts and principles of sanitation, the local authorities, the governing and privileged classes generally, are in equal need of education as to their duties in helping to apply the theories taught to the humbler members of the community.

Nor was it necessary for the Congress to go beyond the confines of the town of Leeds to find an example of this necessity. Leeds is essentially a town of back-to-back houses, and even at this late hour the town authorities do not seem to be fully convinced as to the evils of this system. Though Ireland can scarcely be considered as a country which has taken the lead in the practical application of sanitary principles, it devolved on Dr. MUNTZ, of Belfast, when speaking on this subject at the Congress, to congratulate the Local Government Board on having refused to permit the Corporation of Leeds to erect back-to-back houses in the place of those to be demolished. We are glad to note that these words were greeted with loud applause by the Congress. Nevertheless, Councillor WOMERSLEY attempted to make a sort of apology for back-to-back houses, and this, too, before an audience composed exclusively of sanitary reformers. To make matters worse, Councillor WOMERSLEY said that there was no comparison between the older specimens of back-to-back houses and those recently erected. Surely the fact that such houses have been recently erected is the worst of all sins against the principles of sanitary science. We can forgive what was done before the unhealthiness of back-to-back houses was realised, demonstrated, and understood. Now, however, that the unsuitable nature of such dwellings is all but universally acknowledged what possible excuse can there be for having recently erected such buildings? Yet there are numerous streets—and good streets, not mere slums—in Leeds where modern houses stand back to back and can have no through ventilation. Evidently education in sanitation must be extended to other classes than those which are usually considered to compose what is called "the people." If, however, the Corporation of Leeds has exposed itself to severe criticism with regard to its lax opinions on the subject of back-to-back houses, it deserves encouragement in its efforts to grapple with the very difficult problem of the housing of the poor. As Councillor WOMERSLEY rightly observed, it is no easy matter to deal with seventy-two acres in the centre of a great city like Leeds, and to house and re-house 15,000 people.

A good deal was said at the Congress as to the teaching of hygiene in elementary schools and as to the educational influence in such respects which might be exercised by the clergy as well as by women in general. There is no doubt that much more could be done in this direction than is at present attempted. Still we have seen notable beginnings in various directions, and it may confidently be asserted that knowledge of the elementary principles of hygiene is more widespread among British people than among the peoples of most Continental countries. In one important respect the poorer classes in England are much behind similar classes on the Continent. The poorer classes in England know more about public and less about personal hygiene than similar classes in most of the Continental countries. The poor of England have a better knowledge of the measures that should be taken to prevent the spread of infectious diseases and of the importance of good drainage and ventilation; but they are inferior to similar populations on the Continent in respect to the care of their persons, their clothes, and their food. The popular lecture delivered at the Albert Hall, Leeds, by Dr. P. BOOBBYER, medical officer of health of Nottingham, was therefore most appropriate. He spoke of the sterilisation of milk, the amount of meals that should be taken, and how a steak should be cooked. It is homely advice of this sort that is much needed in this country. Anyone who is familiar, not only with the slums of the great English centres, but also with those of Continental cities, will have realised that whereas on the Continent the sanitation or drainage is infinitely worse than in England, the furniture, especially the bedding, is cleaner, the people are more tidily dressed, and in spite of their poverty their cooking is immeasurably superior. In such respects the standard of life is higher and the refinement is greater. These are questions which sanitary reformers might with advantage take in hand. It is on our weak points that we need the most enlightenment.

THAT many of our medical terms are a standing testimony to etymological ingenuity and philological inventiveness will be readily admitted, and the uncouth cumbrousness which expresses so little at so great length makes all but the very learned ready to listen to any reasonable plan of reducing to simplicity the polysyllabic acrostics without which science

and art seem unable to advance. Unsupplied with an up-to-date medical dictionary it is impossible for any who have not kept in close touch with all the developments of our art to read intelligently the literary productions which describe them. Words to try the articulation as well as confound the understanding have been devised, and it is not easy to see who derives benefit therefrom. The medical student, indeed, dearly loves a long, high-sounding word; it is a precious thing to be stored in the recesses of his mind ready for the first examiner who gives him an opportunity to exhibit it. As ROBERT LOUIS STEVENSON'S funniest creation, Mr. PINKERTON, seized on the "boss word hebdomadary," and said to it, "I'll have you in type as long as yourself," so the student grabs at such words as "choledocho-duodenostomy," and says, "Wait till I find an examiner to hurl you at." The simplification of nomenclature would lessen the temptation the student has to attach himself to a treble-barrelled verbal curiosity rather than to gain an insight into the thing itself, and this alone would make for good. But seriously, the time spent in learning the meaning of medical terms is labour which ought to be reduced to a minimum. Each science has its own phraseology—a phraseology which its votaries must acquire and understand; but this ought at least to be made as easy and simple as possible. Consequently, although the dreams of the spelling reformer are usually Utopian, we cannot but sympathise with the efforts of those who draw periodical attention to the muddles in the spelling of the medical vocabulary.

One of the latest to direct attention to the subject is Dr. GOULD, of Philadelphia, the author of an excellent medical dictionary, and therefore an authority on the subject. We printed Dr. GOULD'S suggestions last week (p. 773) and may now briefly consider his proposals in detail. He makes eight suggestions, it will be seen, in support of what he terms "microscopic modifications." His advice to Anglicise foreign terms which a good proportion of readers will not understand is sound, and we agree to the use of figures rather than spelling when the number to be indicated is more than ten, for space is thus saved, though a source of error is introduced requiring watchfulness. He wishes to abolish the diæresis and all accents. "When a foreign word is Anglicised let us do it completely," he pleads, "and not drag into our domain exotics of foreign habit, leaving it, e.g., neither English nor French." This suggestion we do not consider a good one. It is well that words should have the hall-mark of their origin for some time. When the hall-mark has become unnecessary it will not be imprinted. He also desires to abolish diphthongs with one sweep. Custom has largely brought about the realisation of the suggestion. Examples of abolition of the diphthongs "æ" and "œ" in words where they can be supplanted by "e" are numerous. "Ether" has taken the place of "æther," "perineum" is, though with some difficulty, displacing "perinæum," "empyema" is now never written "empyæma," and though "pyæmia" and "septicæmia" are still in the field, there are signs that in them, as well as in a number of other words, the diphthong may disappear before the single vowel with us, as it has already done in America. The disappearance of the hyphen in compound words must also be left to the working of that powerful force by which changes are silently, almost imperceptibly, effected. In such words as anti-toxin, post-mortem, ventro-fixation, and that series of complicated terms used to designate operations upon the abdominal viscera, the hyphen will probably disappear as we begin to realise that the long words express only a single process or procedure. Antitoxin is already spelt universally without its hyphen. It is in the infancy of new procedures, before the mind has become familiar with their several stages and has instinctively blended them into one compact whole, that hyphens between the parts are so necessary. The separation of the several parts of the word helps the mind to a more ready comprehension of the thing indicated. The hyphen will disappear as our conception of the thing meant becomes easy and complete. Until then the hyphen is far from "useless," as Dr. GOULD terms it, and will remain.

In our opinion Dr. GOULD'S suggestions can all be left with safety to the ordinary evolution of language. By a stroke of the pen it is impossible, as it is, in our opinion, quite inadvisable, to order the dropping of the final "te" in words like curette, fourchette, and brunette, although in tourniquet, minuet, and other words it is missing. Nor will the fiat of any group of reformers suffice to suppress the silent "me" of gramme, centigramme, and the words in which it persists, in spite of its absence from telegram, diagram, anagram, and others. And not even the authority of the American Association for the Advancement of Science will effect the disappearance of the final "e" from bromide, iodide, bromine, iodine, atropine, and other words in which they recommend the change, unless the unconscious impulse of the English-speaking race tends in that direction; and if it does the association is as powerless to prevent as to promote the change. Neither language nor spelling is rigid and unalterable. But suggestions such as those of Dr. GOULD serve a purpose by drawing attention to the need for clearness of nomenclature and simplicity of diction in those who feel themselves compelled to coin new words for us, and for that reason he has done well to throw them on the waters of public opinion. But if any of the suggestions ever come back to him as tangible philological results, it will be not till the lapse of many, perhaps very many, days.

Annotations.

"Ne quid nimis."

THE POWERS OF A CORONER.

AN inquest held some little time ago shows very well the ignorance that exists even among people who might be supposed to know as to the powers and status of a coroner. Shortly, the facts were as follows. An old man found in a dying condition in the road, was seen by one medical practitioner, who forthwith ordered his removal to the infirmary, where he died. Notice of the death being forwarded to the coroner that gentleman ordered the medical man first called in to attend at the infirmary and make a post-mortem examination. The master of the workhouse refused to allow the practitioner in question to obey the coroner's order, although told by the practitioner that he had authority from the coroner. The medical officer of the workhouse also seems to have

been under the impression that he should make the examination. At the adjourned inquest the coroner spoke very plainly to both the master and the medical officer, pointing out that they had rendered themselves liable to various penalties for obstructing him through his agent in the performance of their duty. It cannot be too strongly impressed upon every one that a coroner is a judge, and that any obstruction to, or defiance of, his orders is contempt of court. We observe that in the discussion on the matter before the board of guardians one member, Mr. Luck, who distinguished himself the other day in a vaccination controversy, "was of opinion that the inquest was uncalled-for. It was all a question of £ *s. d.*" So, at least, says the report in the *Eastbourne Gazette*.

MIDWIVES.

WHATEVER views may be entertained on the question of a Midwives Bill one thing is becoming clearer every day—that midwives, without any necessary acquaintance with the dangers of childbirth or the most elementary principles on which they should be met, cannot be allowed to continue their work unchecked. Women of the poorer classes must somehow be protected from such an obvious risk to life. A very painful case has been the subject of an inquest at Oldbury—that of a woman, aged forty-two years, who was attended by two persons apparently calling themselves midwives. The deceased had a great objection to the attendance of a medical man and would not consent to have one fetched till she was so collapsed as to be beyond any hope of recovery. Dr. Donovan, who was called in, was of opinion that her life might have been saved if she had been properly attended. The women did all they could, but "their ignorance prevented them rendering the deceased any aid." The coroner thought the case showed the necessity for passing a Midwives Bill. The jury wished to express their unqualified disapproval of the practice of persons calling themselves midwives attending at confinements. Something must evidently be done. The incompetent midwife is a source of grave danger to lying-in women.

A PROJECTED PUBLIC HOT-WATER SUPPLY.

WE alluded last week to an ingenious system of bringing a hot-water service supply within the reach of the public at the cost for a gallon of boiling water of one halfpenny. The proposal is one which demands careful attention, since if adopted it would present many points of interest from a domestic, economic, and hygienic point of view. The method consists briefly in utilising the waste heat of the street gas lamp. We will assume that this is satisfactory from the engineering point of view and free from danger. The heat is absorbed from the flames by means of a coil in which steam is generated and driven into a reservoir of water contained in a chamber at the bottom of the lamp. The hot water may be drawn off by placing a halfpenny in a slot and turning a valve. The source of heat, which is otherwise lost is thus cheap, but street lamps, of course, are not alight between sunrise and sunset in broad daylight, and during that interval the gas would have to be paid for, for heating purposes only. Gas, as is well known, is not an economic fuel for raising water to the boiling point. We take it that to ensure a continuous supply of hot water—and any failure to do so would, we imagine, be disastrous to the enterprise—those street lamps fitted with the hot-water apparatus would never be extinguished. Then occurs the question as to what the promoters intend to do where the public gas lighting is afforded by burners of a different type to the ordinary "fish-tail." For example, many of our streets are lighted with the incandescent gas burner, which, as is well known, consumes only one-half the quantity of gas consumed in a burner of plain type. The output, therefore, of heating power would be proportionally less. Again, with the regenerative burner of the Wenham type it is essential that the gas on its way to the burner should be heated automatically—that, is by the heat of the products of its own combustion. Since burners of the kind just described are largely in use for public lighting it would be interesting to know what the promoters propose to do in such cases. It cannot be doubted that the supply of hot water, especially in the poorer parts of London, would confer an inestimable boon upon the "masses." Consider, for instance, the advantage to the toiler for daily bread who has to rise in the small hours of the morning. For the comparatively small outlay of a halfpenny he could procure a gallon of hot water sufficient for the preparation of his coffee, cocoa, or tea, as well as for ablutionary and other purposes. It is proposed to extend the scheme a step further. Thus by means of automatic machines placed close to the "hot-water lamp post" the man in the street may provide himself with a cup of tea, coffee, cocoa, or even beef extract. This proposal raises a question of sanitary import. To the lamp posts are to be chained tin mugs which, supposing the movement becomes popular, will serve as a food utensil for a great number of more or less healthy people. But obviously the risk of infection could be easily lessened by each customer washing the cup out with boiling water. There is another important point which this proposal brings to mind. Assuming that the heating process is safe it is just possible that the apparatus would be liable to abuse by senseless people, in which case grave issues might ensue. The lamp post is commonly represented as a source of refuge and support to the intoxicated person; and in his endeavours to catch hold of a friendly projection, perhaps at the same time with some muddled idea that by placing a coin in the slot there was prospect of another tipple, the consequences might be serious. We hope, however, that time will prove that the apparatus is reliable and safe and of real practical value, because we believe, as we have said, that the cheap supply of boiling water will confer an inestimable advantage, especially upon the poorer classes of the community.

TOBACCO-SMOKING AND GENIUS.

IN his work entitled, *Introduction à la Médecine de l'Esprit* M. Maurice de Fleury devotes a chapter to tobacco-smoking from the point of view of men of letters. The following are the opinions in epitome of three amongst the most eminent writers of the century. In the first place Balzac: "The architect of that cyclopean monument which bears the name *La Comédie Humaine* professed a fanatical aversion to tobacco in all its forms, and was constantly employed in an endeavour to purge the *Régie*. In his books he invariably covers with contempt the characters whom he portrays as smokers, and an entire chapter in his 'Treatise on Modern Stimulants' consist exclusively of fulminations against the weed and its worshippers. His, in fine, is the motto under which the devoted members of the *Société contre l'Abus du Tabac* wage an unceasing war—'Tobacco destroys the body, attacks the intellect, and besots the nations.'" Next, Victor Hugo: "The author of *Les Misérables* was likewise no smoker. As Théodore de Banville once said, 'In the house of Victor Hugo, Peer of France, no one has ever even attempted to smoke.' In this connexion an anecdote suggests itself. One evening in the master's home one of the guests, Villiers de l'Isle-Adam, I think, was vaunting the beneficent effects of a cigarette on a creative imagination. The great poet at once rose in revolt. 'Believe me,' said he, 'tobacco is more hurtful to you than beneficial; *it changes thought into reverie*.'" Finally, M. Émile Zola: "I have no definite opinion on the question. Personally, I gave up smoking ten or twelve years ago on the advice of my medical attendant,

at a time when I believed myself to be affected with heart disease. But to suppose that tobacco exercises an influence on French literature raises a question of such magnitude that the most rigid scientific proof alone could dispose of it. I have known great writers who smoked without stint, but their intellects were not one whit less acute. If genius be a neurosis, then why seek to cure it? Perfection is such a very tiresome thing that I very often regret having broken myself of the tobacco habit. And as I know nothing more about the question I do not dare to enlarge upon it."

THE VIRTUE OF AN "IF."

IT is reported in the daily press that the Lambeth Vestry have received a letter from a firm of solicitors who state that a client of theirs, who desires to remain anonymous, is willing to contribute the sum of £10,000 towards the cost of founding a general hospital in South London provided that certain stated conditions are adhered to. The donor also makes sundry suggestions as to administration. The offer is a generous one; but £10,000, though a large sum, will not go very far towards founding a hospital; and we must confess to a desire to know a little more about the "conditions" and the "suggestions." They may be sensible—hospital management as it stands is not perfect any more than anything else in the world—or they may be of such a character as to be absolutely unworkable; that is to say, of such a kind that no medical man would, or could, serve the office of physician or surgeon while adhering to them. Anonymity in charity is to be respected; but the conditions under which the gift is offered should be published.

THE MANUFACTURE OF KOCH'S "TR" TUBERCULIN.

IN the *Medical News* (New York) of Aug. 28th is a paper by Dr. E. L. Trudeau and Dr. E. R. Baldwin, of Taranac Lake (N.Y.), on "The Need of an Improved Technic in the Manufacture of Koch's 'TR' Tuberculin." The writers state that some experience of the use of this substance has been gained by them which shows evident imperfections in its present mode of manufacture, and indicates the possibility of serious objections to its use in human beings until these shall have been overcome. Disclaiming any intention of criticising the value of the original and all-important facts bearing on the production of artificial immunity set forth in Koch's recent paper, the writers confine their present notes to that part of their experience which relates to the character of the product as at present manufactured and sold; and briefly present evidence thus far obtained which bear on the nature and defects of the preparation itself. Two facts present themselves: (1) the extreme difficulty of preventing accidental contaminations of the substance in the somewhat complicated process of manufacture without the use of heat or antiseptics; and (2) the evident uncertainty of separating by centrifugation alone the uncrushed and still living tubercle bacilli from the fluid in which they are suspended. The experience of the writers would indicate that neither of these difficulties appears to have been as yet entirely overcome by the present manufacturers; and as the first requirement of an injective fluid intended to produce immunity is that it should be entirely free from danger, they have felt it their duty to make known such of their observations as relate to this point. They have examined seventy-six vials of the new tuberculin (designated "TR"), and give a table embodying the results of their investigations. Twenty-eight of the vials were cork-stoppered, and on culture and microscopic tests all showed various yeast-like growths, but no attempts were made to identify them. Forty-eight vials were glass-stoppered, and of these, thirty-six were sterile and the others contaminated with moulds. Observations on guinea-pigs indicated that these contaminating organs were non-pathogenic, that the immunising properties of the fluid might be impaired by their growth in it, and that with a little care in the selection of sterile bottles, with the application of the culture test to each, the use of the preparation in the human subject was perfectly permissible. The possibility that the fluid contained tubercle bacilli was a much more serious matter. Repeated microscopic examinations of the various specimens received at different times were made with negative results, but on centrifugating the contents of one or two bottles at a time and examining the sediment six or eight well-stained tubercle bacilli were found in each cover-glass with little difficulty. The writers then inoculated five animals with the tuberculin; four of these remained in perfect health, but one developed tuberculosis. Experiments were then made with centrifugating the fluid at a very high speed (4000 revolutions a minute) for an hour, and even then they were not quite certain that the fluid was absolutely free from bacilli. In our issue of Sept. 18th is a paper by Mr. Frederic Eve detailing cases of surgical tuberculosis treated by Koch's new tuberculin, and he is of opinion that some slight although no markedly favourable influence may be exerted in cases of early tuberculosis of joints or in those in which no evidence of softening of caseous material exists. But the effect where caseous material has broken down, especially if the disease has become septic, is negative. Reports on the therapeutical action of this remedy differ, and not sufficient time has elapsed since its introduction to enable any definite judgment to be passed upon it.

THE SALMON CLAUSE AND APPRENTICES' INDENTURES.

ONE by one old traditions are being upset by the modern process of inquiry. The fierce light which beats upon a throne is as nothing to that which beats upon the manners and customs, whether traditional or not, of our ancestors. The last to be overturned is one that perhaps we were acquainted with from our earliest childhood, since it is referred to in that delightful book "The Water Babies," and it is this, that formerly salmon was so plentiful throughout Great Britain that it was a common practice for the indentures of apprentices and agreements with servants to contain a clause that they should not be required to partake of that fish for dinner more than a certain number of times weekly. Dr. T. N. Brushfield is the unkind person who has robbed us in the most scientific and convincing manner of this cherished delusion. We have received a reprint of a paper read before the Chester Archæological Society in which he recounted his researches into the question and brought forward evidence from various county histories, *Notes and Queries*, sundry antiquarian works and other documents to prove how widespread the belief is. He also hunted high and low for an indenture containing the said clause, but he never got nearer than the following letter from a medical man in the north of England: "In 1852 I was apprenticed to my uncle ..... and when signing the indenture the solicitor remarked to my uncle, 'This is almost a *verbatim* copy of your own indentures, with the exception of one clause which I have omitted, thinking it unnecessary at the present day—viz., he is not to have salmon more than two days a week.' My uncle was apprenticed to a surgeon in the East-end of London, and supposing him to have been bound at the age of seventeen the indenture would have been drawn up in the year 1825." Dr. Brushfield then quotes evidence to show that salmon was never very cheap at any time, and quotes an opinion of Frank Buckland that

the origin of the clause, if it ever existed, was that apprentices used to be fed upon spent fish which were both nasty and unwholesome. Dr. Brushfield thinks that the custom might have originated from a dread of leprosy; but, on the whole, he is at present unable to regard "the asserted salmon clause in the indentures of apprentices in any other light than as a myth."

TYPHOID FEVER AT KLONDYKE.

WHEN masses of people suddenly and unexpectedly congregate together in places where no adequate preparation for living has been made an outbreak of disease in some form or other is usually the result. It is not very surprising, therefore, to hear that a report from Dawson City announces that there has been an outbreak of typhoid fever in the district. If this report is correct it is to be feared that a disease of this nature will bear hardly on a population the majority of the members of which are already weakened by hardship and want of food. It is said that the medical men are well occupied and getting £40 a visit, a sum which at first sight may fairly take away the breath of some of the hard-worked and badly paid members of the profession at home. A man's wealth, however, has to be reckoned by his expenditure, and even if the magnitude of the fees be true the glamour is somewhat dulled when, on reading a little further, we find that eggs are selling for 4*s.* each, from which it may be fairly inferred that all the necessities of life, to say nothing of its luxuries, are proportionately dear.

SULPHUR BACTERIA.

PROFESSOR MANABU MIYOSHI, of whose observations on iron-containing bacteria we published an abstract in THE LANCET of Sept. 11th (p. 611), has contributed to the *Journal* of the Imperial University at Tokio, Japan, a long paper in German on Sulphur Bacteria. In 1895 he was led to examine some sulphur-encrusted organic growths (*Schwefelrasen*) found in the reservoirs and conduits of the hot springs of Yumoto, at Nikko. The water is rich in sulphuretted hydrogen, and these "growths" are formed by the sulphur of the gas separating and being deposited on a gelatinous substance of bacterial origin, which may perhaps be identical with the *barégine* of some European sulphuretted waters. Two conditions are necessary for the formation of the "growths"—(1) that the water should be constantly flowing, and (2) that it should be very shallow. The temperature of the water in which these objects had their habitat varied from about 51° to 70° C. In the rapidly-flowing water their colour varied from pale yellowish-white to almost pure white, but in the slower currents they were always yellow, the explanation being that in the latter case the sulphur was in the form of handsome, tolerably large crystals, mostly either rhombic octohedra or monoclinic prisms, whilst in the former case it was in minute amorphous particles mixed with imperfect prisms. In the slow currents the length of the *Schwefelrasen* varied from 0·5 cm. to 2 cm. (from ¼ in. to ¾ in), but in the rapid currents they might be as long as 20 cm. (8 in.). The average length was from 3 to 5 cm. (from 1¼ in. to 2 in.). The gelatinous substance is tough and slippery, and gives all the characteristic colour reactions of mucus; it contained principally cylindrical sickle-shaped colourless cells, varying in length from 6μ to 28μ, the average dimensions being 23μ in length and 1·4μ in breadth. It was very difficult to find any of the gelatinous substance free from visible sulphur deposit; even the purest sample which could be obtained showed granules of sulphur under the microscope, its comparative freedom from deposit being due to the fact that it happened to be protected from the air, whereby the oxidation of the sulphuretted hydrogen was hindered. Professor Miyoshi's experiments showed that this substance has an exceptional power of inducing a precipitation of sulphur from sulphuretted water. Samples of it placed in currents flowing from the spring, exposed to the air and having temperatures of 59° and 69° C., were covered with a layer of sulphur in a quarter of an hour or half an hour, and after the lapse of an hour the deposit was so thick that the whole was indistinguishable from the ordinary *Schwefelrasen*. Control experiments made with strips of paper and bundles of thread, as well as with bundles of thread smeared with starch paste, partially coagulated albumin, and concentrated gelatin solution or thick glue, showed that these objects when suspended in the water received a slight coating of sulphur, not in any way comparable to the thick deposit formed on the bacterial growth Up to the present time five colourless and eight coloured sulphur bacteria have been found at Yumoto. The former are *Thiothrix nivea* (Rabenhorst), *Thiothrix nivea* (Rabenhorst), new var. *verticellata*, *Thiothrix tenuis* (Winogradsky), *Beggiatoa alba* (Vauch.), and *Beggiatoa minima* (Winogradsky). The coloured sulphur bacteria may produce either a peach-red or a violet effect, the former including *Chromatium Weissii*, *Chromatium minus* (Winogradsky), *Chromatium vinosum* (Cohn), *Chromatium minutissimum* (Winogradsky), *Thioderma roseum* (new genus and species), and *Thioderma rubrum* (new species); the violet bacteria are *Thiosphaerion violaceum* (new genus and species), and *Thiosphaera gelatinosa* (new genus and species). Professor Miyoshi found that under the influence of certain solutions *Chromatium Weissii* presented the phenomenon of chemotaxis in a marked degree, the cells moving either away from or towards these solutions according to the substance which they happened to contain. For the purposes of the experiments Pfeffer's capillary tubes were used, about 1 cm. in length and 0·05 mm. in diameter at the orifice. The cells were strongly attracted by weak solutions of sulphuretted hydrogen, and by weak (from 0·3 to 0·5 per cent.) solutions of ammonium tartrate, potassium nitrate, ammonium phosphate, &c.; but, on the other hand, they retreated from a solution of malic acid, withdrawing altogether from the space represented by a sharply defined "repulsion sphere," having a diameter about forty-three times that of the capillary tube. The description of these various organisms is illustrated by a number of lithographed drawings, some of which are coloured. In the opening address in the Section of Botany at the recent meeting of the British Association at Toronto Professor H. Marshall Ward referred more than once to Professor Miyoshi's investigations on chemotaxis and allied phenomena.

THE ABUSE OF DISPENSARIES.

WE quote the following from the *Globe* of last Monday "The exceedingly mean people who, without the excuse of poverty make use of free elementary schools and free hospitals equally victimise, it appears, charitable dispensaries. While never contributing a farthing towards the maintenance of these excellent institutions they feel no shame in resorting to them for medical advice and medicine. A correspondence on this scandal which has lately been running in a Warwickshire paper reveals some cases of the sort which appear almost incredible. In one instance, the owner of a whole row of houses boasted that he always could and did obtain gratis treatment at the dispensary; all he had to do was to wear his oldest clothes. Of a similar sort was the well-to-do woman who, whenever any ailment troubled her, doffed the fine raiment she usually wore and clad herself in the most ragged garments her wardrobe contained. Letters of recommendation have to be obtained, it is true, but that can be easily managed by making pretence that the introduction is required for some poor person. Not only does this gross system of imposture help to exhaust dispensary funds, which are never too affluent, but it tells terribly against struggling medical men. When one of these declined to attend the family of a

thriving tradesman for the beggarly remuneration of 3*s.* 6*d.* a week, the answer was, 'I do not see the fun of paying half-a-crown a visit when I can get advice and medicine for nothing at the dispensary.' It appears to be quite a common practice to coerce medical men into giving their services for next to nothing by threats of a similar character, and in many cases the attempt succeeds only too well. Subscribers to the institutions should therefore exercise all possible care in complying with requests for recommendatory letters; too often they are given without the slightest inquiry."

We heartily endorse every syllable of the *Globe's* "leaderette"—a horrible word to apply to a sensible expression of editorial opinion. If subscribers to these and other medical charities would insist upon proper precaution being taken against abuse the persons for whom the benefits were designed would obtain them, perhaps as important a consummation in the eyes of the layman as that justice would then be done to medical service.

HIGHWAYMEN AND REVOLVERS

THERE would seem to be at present a wave of criminal violence passing over the country. Gangs of young ruffians perambulate the streets, and sticks, belts, to say nothing of revolvers, are freely used. The punishment for this sort of offence is not half heavy enough. Only the other day a lad who had "accidentally" wounded another was let off with two days' imprisonment—a perfectly useless sentence. There is another phase of the revolver question which deserves consideration. Many instances have occurred lately of bicyclists, especially women, being attacked and robbed or maltreated by tramps. At an inquest recently held upon a youth, aged eighteen years, who was accidentally shot by a boy, aged fifteen years, evidence was given of the enormous sale of cheap revolvers to cyclists as a means of defence. The scoundrels who attack cyclists are hardly ever arrested, and when they are the punishment for assault is ridiculously inadequate; but, all the same, the general use of revolvers must be put a stop to. The defunct Pistols Bill must be re-introduced into Parliament and passed, and the lash should be made part of the punishment for brutal assaults on the highway, whether accompanied by robbery or not.

THE ETIOLOGY OF INFECTIVE ENDOCARDITIS.

IN the *Edinburgh Medical Journal* of July, 1897, Dr. A. A. Kanthack and Dr. H. M. Tickell have published a valuable article on this subject, based on an analysis of all the fatal cases which were observed in St. Bartholomew's Hospital from January, 1890, to March, 1897, and subjected to a necropsy. These amounted to eighty-four. The writers very properly insist that the term "infective" should be used and not "malignant" or "ulcerative." The question always is, Are the vegetations due to bacteria or not? Micro-organisms may cause acute endocarditis without ulceration, and, conversely, ulceration may be found in their absence. In all but ten cases either old cardiac disease or an inflammatory infective lesion accompanied the endocarditis. Of these ten cases malignant disease existed in 4, and a possible pneumonia in 1, so that only 5 cases can be considered as uncomplicated. Old cardiac disease was present in 54 cases (64 per cent.), 16 of which were accompanied by a recognised infective process—viz., pneumonia in 7 cases, pyogenetic process in 4, empyema in 1, vaginal and uterine disease in 2, bronchiectasis in 1, and influenza in 1. Of the remaining 30 cases in which old cardiac disease was absent an infective process was discovered in 20, which either preceded or accompanied the endocarditis—viz., pneumonia in 5, pyogenetic process in 6, empyema in 1, vaginal and uterine disease in 2, otitis in 3, tubercle in 2, and typhoid fever in 1. Of all acute diseases pneumonia is most frequently complicated with endocarditis. The writers found an antecedent pneumonia in 14 per cent. of all the cases. Where the pneumonia is croupous the pneumococcus is the cause of the endocarditis, and seems to be attracted and arrested by a pre-existing cardiac lesion. Endocarditis is by no means common in typhoid fever. When it occurs, either streptococci and other pyococci or typhoid bacilli have been found in the heart's blood. Similarly, in those rare cases of infective endocarditis occurring in diphtheria or gonorrhœa, the Klebs-Löffler bacillus or Neisser's coccus may be present, or streptococci and other pyococci. In one case there was a tuberculous endocarditis. Mixed infections are common in all these cases. Therefore, when an endocarditis complicates an infective fever it may be (1) homologous, (2) heterologous, or (3) mixed infection of the endocardium.

IS OLIVE OIL A FOOD OR A DRUG?

THE Islington Vestry has lately been foiled by a decision of Mr. d'Eyncourt at the North London Police-court in a case of some importance. A young woman employed by the vestry under the Sale of Food and Drugs Act asked in a grocer's shop for a bottle of olive oil at 5½*d.* On being analysed it turned out to be, not olive oil, but cotton seed oil. The defence was that it was marked "Sublime salad oil," and that salad oil included cotton seed, olive, and other oils; that it was not a drug, not a medicine for internal or external use, and they were summoned for selling it as a drug. The contention of Mr. Harris, the medical officer of the vestry, was that olive oil is a drug used internally and externally. The magistrate, in deciding against the vestry, said the vestry had pinned its faith to the view that the oil was a drug, and held that it was a food and not a drug, especially considering that it was bought at a grocer's shop. If a medical man wanted to make up a prescription it is to be hoped, his worship said, he would go to a druggist and not purchase a 5*d.* bottle at a grocer's shop. The summons was dismissed with a guinea costs. It is a pity the vestry did not in its summons recognise that olive oil is a food as well as a drug. It is certainly a medicine, used not only externally, but in large doses internally by itself, besides entering into the composition of seventeen or eighteen preparations in the Pharmacopœia.

DIPHTHERIA AND SCHOOL ATTENDANCE.

THE report of Dr. F. J. Allan, medical officer of health for the Strand, for the eight weeks ending Sept. 11th, 1897, contained a passage of interest, bearing upon the relation of the spread of diphtheria to attendance at board schools. Dr. Allan has noticed this year, as in past years, that as soon as the school holidays begin the number of cases of diphtheria "show a decline which continues until the schools resume work, when the notifications rapidly increase." He continues as follows:—

"In this connexion I have to report the receipt of a memorandum, prepared in the Medical Department of the Local Government Board, on the circumstances under which the closing of Public Elementary Schools or the exclusion therefrom of particular children may be required in order to prevent the spread of the disease. You will probably refer it to your Health Committee with a view to taking any action thereon which they may think desirable. Statements have been freely circulated in the press lately that diphtheria has been increasing at an alarming rate during the last few weeks. I find in this district that only 4 cases have been notified so far this quarter, and on examining the returns for the whole of London for the first nine weeks of the quarter I find that the average number of cases notified per week has been 259, while in the corresponding period of last year the average was 264. I do not wish to appear as taking a light view of the amount of diphtheria which has occurred, but I would point out that so far this year there have been fewer cases notified than in 1896. Apparently, public attention has been strongly drawn in this direction by the inability of the M.A.B. to

find hospital accommodation for all cases applying for admission. It was not until the end of the year 1888 that diphtheria cases were admitted to the M. A. B. hospitals, and it is only recently that the public have begun to demand admission for this class of patient, prompted to do so doubtless by the improved results obtained in the hospitals since the antitoxin treatment was introduced. The Asylums Board has not accommodation for the patients who seek admission in increasing proportion, and from this cause apparently have arisen the statements in the papers that there was an increasing epidemic of disease at present. It is within the two months from now that diphtheria reaches its maximum in each year, and from present appearances I think it is probable that there will not be so many cases this year as last."

A DINNER TO SIR SAMUEL WILKS.

ANY old friends or pupils of Sir Samuel Wilks, Bart., who wish to be present at the dinner at the Hôtel Métropole on Wednesday, Oct. 6th, at which it is proposed to entertain him, are requested, if they have not already done so, to apply at once to the Secretary, Dr. G. Newton Pitt, 15, Portland-place, W., at the same time enclosing 22*s.*, the price of a dinner ticket (including wine).

ANEURYSM OF THE INTERNAL CAROTID ARTERY FOLLOWING SCARLET FEVER.

IN scarlet fever cellulitis of the neck sometimes affects the great vessels, exposing them or causing perforation; but we know of no case like the following, in which an aneurysm of the carotid artery formed. It has been published by M. Lyot and M. Retit, and is abstracted in the July number of the *Revue des Sciences Médicales*. A girl, aged nineteen years, was attacked by scarlet fever, with severe inflammation of the throat. A month after the onset there appeared in the left sterno-mastoid region, immediately below the mastoid, a swelling the size of a walnut, reducible, pulsating energetically, and with a systolic murmur. On examining the throat the left tonsil was found pushed towards the middle line, and digital examination showed a swelling also pulsating with expansile movements. On exploratory puncture with a Pravaz syringe blood was obtained. Acute dilatation of the left internal carotid artery following acute arteritis was diagnosed. No treatment was employed. Gradual improvement took place, and the patient spontaneously recovered in three months.

A CURIOUS FOOTBALL ACCIDENT.

A REMARKABLE accident was reported in recent issues of our lay contemporaries. During a match at Hull, said the report in more than one place, one of the forwards wrenched himself and fractured a lower rib. He was carried off the field, "but resumed play afterwards, the serious nature of the injury not being realised at first. At the Manchester Infirmary it was found that the fractured rib had penetrated the kidneys, causing internal hæmorrhage." The story struck us as a very strange one. A fractured rib is not always easy to diagnose, especially in a muscular subject, and the presumption was that the laceration of the kidney occurred as a result of resuming play. The report went on to say that there was no hope of recovery. The true facts are as follows, and we think that they should be known, as the widely disseminated story reflects rather seriously upon all the unfortunate lad's comrades. To allow a person considered to have a fractured rib to go on playing, and then for no apparent reason to let him go all the way from Hull to Manchester for medical advice, would have been inhuman. The player in question was charged in the left flank by another player. He did not resume play, and his injuries were attended to by a local practitioner who advised his removal to the Hull Infirmary. The injured player, however, insisted on being taken to Manchester, where he was admitted to the infirmary after midnight. No [diagnosis was made] of fractured rib, but he was then found to be suffering from shock and extreme tenderness between the last rib and the crest of the ilium on the left side. There were also increased resistance in this site and a large quantity of blood in the urine. These symptoms, which seemed to indicate a ruptured kidney, disappeared after forty-eight hours, and hopes are now entertained of the patient's recovery.

DUCHENNE.

UNDER the editorship of Dr. Geo. Gautier there have just been published[1] the orations delivered at the inauguration of the monument recently erected at the Salpêtrière to the memory of Duchenne of Boulogne. The ceremony took place on Sunday, June 27th, under the presidency of the Minister of the Interior. It was claimed for Duchenne that in the domain of neuro-muscular pathology, of the physiology of movement, and of the therapeutic applications of electricity he had literally evolved order out of chaos. To him we owe the axiom that the nutrition of the muscle depends on the cells, or on certain cells, of the anterior cornua of the cord. His classic investigations on the nature of "the atrophic paralysis of infancy," of atrophic spinal paralysis in the adult, of progressive muscular atrophy, and of locomotor ataxy were eloquently referred to. His life had been that of a modest man of science; he had known neither honours nor rewards; he was not a member of the Institute or of the Academy of Medicine. The presence of delegates from these learned bodies on that day seemed like an expression of regret that they could not claim him as one of them. That monument and that day's celebration were not only an act of justice, but also an act of reparation.

IT is reported that medical students in Germany will not in future be allowed to visit the clinics of the German Universities unless they have passed the preliminary medical examination. Foreigners will have to pass an equivalent examination.

THE medical officer of health of Maidstone reported on Wednesday last to his sanitary authority that 306 cases of typhoid fever had been recently notified in the borough.

A MEETING of the English Branch Council of the General Medical Council will be held on Tuesday, the 28th inst., to receive the precept of the returning officer for the election of a Direct Representative in the room of Dr. R. R. Rentoul, resigned.

THE International Congress of Neurology, Psychiatry, Medical Electricity, and Hypnology, which has been held at Brussels, came to an end on Saturday, Sept. 18th, 1897.

DR. CORFIELD, who has been suffering from ptomaine poisoning during the past week, has now quite recovered.

[1] Imprimerie Brevetée, Michels et Fils.

FATAL ACCIDENT TO A MEDICAL MAN.—On Sept. 16th Dr. Strethill H. Wright, of Manor House, Ganarew, near Monmouth, was thrown from his horse whilst riding near the village of Whitchurch. He was found in an unconscious state and conveyed to the Monmouth Hospital, where he shortly afterwards died, the cause of death being a fractured skull. The deceased was educated at Edinburgh University and graduated M.B. and C.M. in 1867, obtaining the M.D. four years later and the M.R.C.P. Edin. in 1872. Dr. Wright was well known and highly respected in the neighbourhood, and leaves a widow and family for whom much sympathy is felt.

THE VACANCY IN THE GENERAL MEDICAL COUNCIL.

THE number of candidates has been increased from two to five during the week, the new names before the profession being Mr. Victor Horsley, F.R.S., Dr. T. M. Dolan, and Dr. J. A. Rigby. We publish the addresses of the first and last, but Dr. Dolan's address has not reached us, and we are uncertain from the wording of his letter (see page 813) whether his intention to stand is definite.

Dr. J. A. Rigby has received the support of an emergency meeting of the Preston Medico-Ethical Society, sixteen members out of a total membership of fifty-five having decided, we are informed by the honorary secretary, that he is "a fit and proper person to be elected as a Direct Representative."

Mr. George Jackson's candidature is being supported by the Central Council of the Incorporated Medical Practitioners' Association.

Dr. Rentoul has sent to us the following copy of a letter which he has forwarded to the President of the General Medical Council:—

"Hartington-road, Liverpool, Sept. 17th, 1897.

"DEAR SIR,—I beg to withdraw the resignation of my seat upon the General Medical Council. I have been impressed with the strong feeling that I, working almost alone, can do very little indeed to aid in carrying into effect those Medico-Political and Medico-Ethical questions which I have had at heart for a good number of years—and more especially so, as Practitioners appear to be so very slow to back up those who are working on their behalf.

"Since the announcement of my resignation I have, however, received pressing requests to remain upon the Council, and I now agree to do so for the present. Moreover, it has been pointed out by THE LANCET that my resigning now may not only deal a severe blow to a question which I have repeatedly brought up since 1890—I refer to the question of Increased Direct Representation of Practitioners upon the Council—but that it would cause the Council to spend some hundreds of pounds upon a new election.

"I sincerely hope that in the immediate future Practitioners will see it to be their plain duty to take a deeper and truer interest in Medico-Political and Medico-Ethical questions, and that those few who have tried to fight their battles and to improve our position generally will receive, not only greater sympathy, but more practical help.

"I am, Sir, yours truly,

"ROBERT R. RENTOUL."

We learn, as we expected, that it is not within Dr. Rentoul's power to withdraw his resignation. His letter does not represent accurately what THE LANCET has said.

MR. VICTOR HORSLEY'S ADDRESS.

TO THE REGISTERED MEDICAL PRACTITIONERS OF ENGLAND AND WALES.

LADIES AND GENTLEMEN,—Having agreed to present myself as a candidate for election to the General Medical Council, I feel it is perhaps necessary to explain why, having declined to be nominated at the election in November last, I have now reconsidered the position. I believed then that it was desirable that the three seats of Direct Representatives should be occupied by general practitioners, but since that date I have, in the light of full knowledge of the unfortunate result of that election, and especially of its adverse influence on the important question of increased direct representation, been driven to the conclusion that the prospect of advancing medical reform depends more upon the previous training of the representatives than upon the fact of their belonging to one particular section of the profession.

Further, a careful study of the situation shows that the Medical Acts have conferred so much power upon the General Medical Council as to render it certain that the most expeditious method of obtaining reform is to influence the Government through the Council; but to accomplish this it is obvious that an intimate personal acquaintance with the methods, laws, and procedures of the Council should be combined with a knowledge of the many pressing needs of the profession and the increasing encroachments on the legal rights, liberties, and, indeed, income of the practitioner.

I may say, I think, without exaggeration, that my work of the last four and a half years as President of the Medical Defence Union has furnished me with a training of the kind required.

Thus, as regards the official, and especially the legal, work of the General Medical Council, the conduct of the numerous and important cases placed by the Union before the Council has brought to my notice many points in medical legislation and in the procedure of the Council amendment of which is urgently necessary. Having a detailed experience of these hindrances and deficiencies I believe I could be of service to the profession in securing the removal of some of these obstructions to immediate progress.

As regards a requisite knowledge of the needs and exigencies of general practice, my official work in the Union has brought me into daily contact with applications from all branches of the profession in different parts of the country, made under the most varied circumstances, thus rendering me intimately acquainted with the difficulties and perplexities of my colleagues.

Of the questions immediately affecting the medical profession I consider the following to be the most pressing, and to require, not only consideration, but decisive treatment by the Council:—

1. The amendment of the Medical Acts, specially including—
   (*a*) The representative constitution of the Council.
   (*b*) The securing of a one-portal system of admission to the profession.
   (*c*) The suppression of irregular practice by confining practice for gain to registered persons.
2. The regulation of medical aid societies.
3. The registration of obstetric nurses.

As regards the two latter questions, the Council has reopened both by the appointment of committees to report thereon, but definite conclusions must be arrived at as soon as possible, and it would be my aim to secure prohibition in the former case of the holding of Medical Aid and like appointments as being a contravention of Section 29 of the Medical Act, 1858, and in the latter to prevent any legislative measures receiving approval unless containing ample safeguards both for the profession and the public.

In conclusion, I wish to state that had either of my friends, Dr. Woodcock and Dr. Lovell Drage, consented to be nominated I would have done all in my power to further his election. As, however, for various reasons they have both declined to come forward, I have decided to do so myself, in the hope of being able to continue and extend that work in which I have always felt the deepest interest, and which I believe I could more efficiently help forward if elected to the membership of the General Medical Council.

25, Cavendish-square, Sept. 18th, 1897. VICTOR HORSLEY.

DR. RIGBY'S ADDRESS.

TO THE REGISTERED MEDICAL PRACTITIONERS OF ENGLAND AND WALES.

LADIES AND GENTLEMEN,—At the request of a number of my fellow medical practitioners I have decided to become a candidate for the seat on the Council rendered vacant by the resignation of Dr. Rentoul.

My medical experience extends over a period of thirty-one years; at the outset I was for three years a pupil in a large club, union, and general practice, followed by the usual hospital course, and subsequently I have been engaged in general practice, for the last ten years with a hospital appointment. I can thus fairly claim to have had exceptional opportunities for becoming acquainted with the needs and wants of a general practitioner. Vast changes have occurred during that time—the old apprenticeship system, with all its faults and advantages, has been practically extinguished; the old-fashioned consulting physician is rapidly becoming a thing of the past and is being superseded by the modern specialist. The Ambulance Association has sprung up into vigorous existence—nobody can predict where it will lead to in the future; our newspapers are being flooded with medical advertisements of all sorts, many of them of a most subtle nature, appealing to the fears and hopes of the people, abounding in the most delusive statements, supported by apparently unimpeachable testimony.

I am fully aware that what I am about to say will be subject to severe criticism, but my position as an applicant for your suffrages compels me to touch on what I consider as the most pressing medical questions of the day, one of the chief of which is the advent, advance, and abuse of specialism. A medical practitioner with no special qualifications, merely in consequence of a more or less temporary or permanent connexion with a special hospital, or a special department in a hospital, becomes in his own eyes and that of the public a specialist, and thus frequently at once becomes elevated into a practitioner on quite another plane, commands enormous fees, takes away from the general practitioner cases he is or ought to be quite competent to treat, and thus by a continuation and amplification of this evil is gradually reducing the general practitioner to the position of one who has perforce to attend only on the most ordinary and every-day and unremunerative class of cases, or those whom want of means prevents from visiting these so-called specialists. An illustration will prove my meaning. A family practitioner was called to a child the other day which broke its thigh. A consulting surgeon was called in to set the fracture. While laid up in bed scarlet fever developed itself and a specialist in fevers was sent for. As one sequela of the scarlet fever suppuration of the middle ear occurred, and an aural surgeon was requested to visit the child. The child's parents were by no means well off, and the cost was a serious drain on their resources. My contention is that a well-educated practitioner should have been quite competent to attend the child in each and all of the above complaints.

If we have to have specialists the present slipshod method of attaining the distinction is absolutely indefensible and unfair. Instead of having to tout for, and hustle and push oneself into, some special hospital or other appointment, let there be a system of fair, yet stringent, tests, open to every qualified medical practitioner alike, who feels the desire, capacity, and opportunity for a certain special line of practice, which tests shall confer the right to use a certain distinctive appellation, such as ophthalmic or aural surgeon, or diplomate in obstetrics or gynæcology, much as now one can get the F.R.C.S. in surgery, the dental diploma, or the diploma in public health. If some such alternative be not adopted, and the use of the term specialist by unqualified persons be not suppressed, dire mischief is bound to result to the best interests of the medical profession, for a certain section of the outside public, ever on the alert, and unscrupulous in their methods of making money, have now seized on the term specialist, which is not interdicted and not illegal, and are now, as you all know, extensively advertising themselves as specialists in the eye, ear, hernia specialists for the cure of rupture without operation,

masseurs, masseuses, medical and other electricians, specialists in fits, in diseases of women, and, more or less, for every disease under the sun. These are all more or less parasites, originated and fostered by ourselves. Another thing that has struck me most forcibly is the reckless way in which of recent years we have taken to giving free instruction in what is called first aid in surgery, with the granting of different graded certificates to candidates after examination. This movement originated, I believe, in a class of persons quite outside of the profession—the scheme was never seriously thought out by the profession at large, was chiefly engineered by a number of the youngest and most inexperienced practitioners; and, as a result, we are now faced with the fact that a body of men has sprung into existence, certificated, uniformed, drilled, decorated (for there are a number of coveted distinctions distributed amongst them), and of a quasi-medical quasi-military status, which, I fear, in the future will become a prolific breeding ground for irregular practitioners. This would not matter much, but I find that now, in the case of any emergency arising, that the service of a medical man is not immediately sought, but one of these nondescript individuals is sent for, who uses his own judgment as to the primary treatment of the case, and decides whether he feels fully competent to tackle it or not, failing which he at last condescends to send for a qualified doctor, usually, I may say, one who so kindly gratuitously instructed him in the aforesaid duties. Truly our foes have been chiefly of our own household. Another grievance of the ordinary practitioners is the introduction of many what are denominated elegant pharmaceutical preparations, by means of which a person, instead of consulting his usual medical attendant, calls in at the chemist's and gets supplied with one of the multitudinous drugs or combinations of drugs (many of which are suggested by the best prescriptions of our best physicians) mentioned, and so counter prescribing becomes rife, and again the qualified practitioner is defrauded of his legitimate patients.

Medical men again, I find, are increasingly prone on all occasions, by a sort of vicarious almsgiving, to give their technical advice and services to charitable and often semi-charitable institutions without any adequate remuneration; this is much to be deprecated, and should as far as possible be discouraged. With regard to the question of qualified midwives my views are briefly as follows. We must approach this question from a common-sense and humanitarian point of view, and not altogether from the standpoint of what is or what is not the best for the medical profession. The great bulk of confinements are attended by women; in the army, in the workhouses all the ordinary confinements are, I believe, attended by midwives, the medical officers only being called upon in difficult cases, and the term midwife is used in the army to denote those women who attend the confinements. The term midwife is an ancient one; it is descriptive and accurate; it is firmly embedded in the minds of the people, and in my opinion it is quite futile to attempt to supercede it by the term midwifery nurse, which is inaccurate, complex, meaningless, and modern. It is quite as inaccurate as it would be to call a surgical operator a surgical nurse. On these grounds then I object to the term and would retain the old-fashioned and well-established term of midwife. Labour often comes on suddenly and unexpectedly, and from sheer force of circumstances some woman with a better nerve than common, combined with a little knowledge, is forced to act as midwife. Thus these women become known as being able to act in an emergency and are gradually forced into the position of midwives, for which ultimately they demand and receive remuneration. No amount of legislation will ever in my opinion do away with this class of midwives, it is made by process of natural selection; then if that be so, surely there can be no objection to the instruction and differentiation, if I may so speak, of a rather better and higher class of midwives, who would be calculated to supersede, or at any rate supplement, the first-mentioned class. Of course, a fully qualified medical man is essential for all cases of difficult and instrumental labour.

I may say, generally, that I am bitterly opposed to any society, whatever its name may be, that trades upon the services of medical men, using them as salaried servants and making profits out of their earnings.

To summarise, I shall, if elected, and as far as I am empowered to do by the constitution and regulations of the General Medical Council, which powers I hope to see extended:—

1. Try and suppress all mischievous, lying, suggestive, and filthy advertisements, which disfigure what should be a respectable press.
2. Try and bring the subject of specialism into a rational, fair, and equitable system, open to all qualified medical practitioners alike, and eliminated as far as possible from all taint of advertising.
3. As I consider it absolutely necessary that not a few only, but everybody, should have a knowledge of what to do in a surgical emergency, I would supersede the Ambulance Association by the enforced teaching in all schools of elementary rules to be observed in emergencies for arrest of hæmorrhage, the resuscitation of the apparently drowned, the first aid of severe injuries, and such cognate subjects.
4. I should rigorously repress and discountenance all forms of unqualified practice.
5. I should, as far as consistently could be done, reprehend the practice of gratuitous attendance upon institutions, and in lieu thereof encourage direct money benefactions to worthy institutions.
6. I would establish, as far as practicable and duly safeguarded, an Order of Midwives, who should be instructed and examined by an appropriate body of medical men, but restricted to the practice of midwifery alone, and to call in a qualified practitioner in all cases of difficult or operative labour.
7. I object to the principle of Medical Aid Societies.

Finally, I am an efficient Volunteer and an Officer in the Army Medical Reserve, all questions connected with the services would receive my most careful and impartial attention. I have no wish to dictate to the general practitioners of this country on whom devolves the election of a suitable candidate, but I do feel that if they depart from their own ranks in their search for an eligible representative they will deliver the most crushing argument against themselves that can possibly be imagined if they now, or at any future time, seek to augment their number of representatives on the General Medical Council. The fact that this is my only chance of communicating my views to my fellow practitioners must be my apology for this very lengthy and, I fear, discursive address.

If elected, I can safely say that all matters pertaining to the welfare of the medical profession shall have my earnest and unbiased attention.

I am, your obedient servant,

JAMES A. RIGBY, M.D. Lond.,
Surgeon-Captain 5th L.V.A., and Army Medical Reserve.

15, Winckley-square, Preston, Sept. 18th, 1897.

MR. VICTOR HORSLEY'S CANDIDATURE.

A meeting was held at the Memorial Hall, Manchester, under the presidency of Mr. Walter Whitehead, on Tuesday evening, Sept. 22nd, to promote the candidature of Mr. Victor Horsley for a seat on the General Medical Council.

After a few words from Dr. J. Brassey Brierley, the secretary of Mr. Horsley's Manchester committee, stating the pleasure with which Mr. Horsley's candidature had been received in Manchester, the Chairman introduced Mr. Horsley to the meeting as a man not only well known to all for his surgery, but fitted by character, disposition, and particular knowledge to represent the medical profession upon the General Medical Council.

Mr. Horsley then spoke to the meeting, taking as his text the election address which we have published above. With reference to the necessity for reform in the Medical Acts he pointed out that the preamble of the Act of 1858 was clear. It defined the position of the profession as contrasted with those of uneducated persons professing to have a knowledge of medicine. In the construction of the Act the Register was the only qualification to practice, the qualified practitioner being defined by Section 34 to be a person registered under the Act. Unfortunately, the Council had not put the law into effect in controlling the practice of medicine by (*a*) unqualified persons; and (*b*) persons who had been struck off the Register for infamous conduct, or because they had been convicted in a court of law. Mr. Horsley then dealt with Clauses 31, 32, 34, and 40 of the Acts, which confer certain privileges on registered practitioners, and pointed out that those clauses had been allowed to fall entirely into abeyance, whereas if they had been properly acted upon all unregistered persons would have been brought under the Act. Of those protecting clauses Clause 40 was the most important, but the law courts, ever since the passing of the Act, had delivered the most contrary judgments on one and the same clause. A striking instance of that they found in the cases of the persons Ferdinand and Bridgwater. In the former case the Medical Defence Union successfully prosecuted under Clause 40. The defendant alleged that he possessed a M.D., U.S.A., and subsequently was convicted of forgery. However, when the Union proceeded against a person who possessed a similar degree named Bridgwater the magistrate refused to convict, and on the case being carried to a higher court Mr. Justice Grantham took a similar view. Mr. Horsley then dealt in detail with Clause 40,[1] and pointed out that the two fundamental errors in it were, first, that it dealt with title only, and not practice, and, further, that it referred only to an individual person, whereas a good deal of quackery now was contributed by companies who could not be reached either under the Companies' Act or practically under the Medical Act. The Act must be amended to enable the Council to prosecute these people, whether individuals or companies. Mr. Horsley then referred to the question of the employment of unqualified assistants and the action of medical aid societies—matters which he considered of vital importance to the profession at large, and which he promised should have his earnest attention were he elected to the Council. He then dealt with procedure within the Council, saying it was quite clear that there must be a very substantial reform in its legal procedure. The Medical Defence Union had many documents in its office which showed that the legal advisers of the Council were not sufficiently instructed in the terms of the Medical Act as they required to be for the good of the medical profession. Having regard to the fact that the legal profession itself was so extremely well protected, it seemed to him that the reason that they had been so badly served

[1] Any person who shall wilfully and falsely pretend to be or take or use the name or title of a Physician, Doctor of Medicine, Licentiate in Medicine and Surgery, Bachelor of Medicine, Surgeon, General Practitioner, or Apothecary, or any Name, Title, Addition, or Description implying that he is registered under this Act, or that he is recognised by law as a Physician or Surgeon, or Licentiate in Medicine and Surgery, or a Practitioner in Medicine, or an Apothecary, shall upon a summary conviction for any such Offence pay a sum not exceeding Twenty Pounds.

in the past was primarily that for some reason the legal profession was not in sympathy with the medical profession and its just aspirations for the protection of honest work. He was quite conscious that there were members of the Council who were anxious for reform, but they were entirely overweighted by the legal advisers of the Council. A radical cure for the state of things which at present existed was an alteration in the constitution of the Council. It was rather interesting to observe that a reform of the constitution of the Council—that is to say, the making it a more directly representative body—was inextricably bound up with the corporation question, because it was clear that the members who represent corporate bodies could not divest themselves of the idea that they were the representatives of that body. In pointing to the means for carrying out reform in this matter Mr. Horsley said they were entitled to twice the number of direct representatives on the Council. That would give them a very considerable addition to their voting strength, and would perhaps enable them to get in the thin end of the wedge for the one-portal system.

At the close of his address Mr. Horsley answered a number of questions. He admitted that he had stated that there were sufficient consultants on the General Medical Council and that there should be more representation of the general practitioner, but, as he had stated in his address, his reason for standing was that he had special knowledge of the reforms required in the work of the Council. He expressed himself in favour of the proposition that every woman who was confined should be visited within twenty-four hours by a medical man, while he did not believe in any scheme which would entitle registered nurses to practise midwifery other than under medical supervision.

On the motion of Dr. S. Woodcock, seconded by Dr. Dreschfeld, a resolution was then adopted, with one dissentient:—

"That this meeting has heard with much pleasure the speech of the candidate, Mr. Victor Horsley, expresses its complete confidence in him, and pledges itself to do its utmost to secure his success at the election."

THE RISING OF THE FRONTIER TRIBES IN INDIA.

THE unfortunate reverse, although of a temporary kind only, sustained by one of the brigades under the command of General Jeffreys, happened at a bad time, and may possibly spread the flame of insurrection, which it is compulsory on the Government of India to extinguish with as little delay as practicable. The nation has to grieve for the loss of many brave officers and men, and the Queen has lost no time in expressing her sorrow, and her admiration at the conduct of the troops. The behaviour of the native troops—especially of the Sikhs, Goorkhas, and the corps of Guides—has been beyond all praise during the present campaign. The perusal of the numerous acts of devotion and bravery on the part of these fine fellows, some of the bravest of whom have sacrificed their lives in our behalf, arouses a glow of enthusiastic admiration. Lord Wolseley, who, to do him justice, has never been wanting in sympathy with gallantry wherever he has met with it, has been greatly impressed by the official reports of the conduct and deeds performed at Tochi by many of the native officers and non-commissioned officers and soldiers, and he is understood to be doing his best to have the Victoria Cross conferred upon some of the survivors. The intelligence that has since been received from the scene of the rising on the frontier will strengthen the Commander-in-Chief's efforts in this direction. We are confident that public opinion will recognise it as a bare act of justice to the native army and a source of pride to their British comrades that the conspicuous valour shown by soldiers of the native army should be recognised and rewarded. To return, however, to the subject of the rising of the tribesmen. We can only repeat what we have already expressed—namely, that while we have no fear about the recurrence of an Indian Mutiny or wholesale disaffection on the part of the native population, the Government of that country has nevertheless to face a difficult and most expensive undertaking, and that we are still far from nearing the end of it. Not only is the rising on a very extensive scale, but the country is full of obstacles owing to its rugged and mountainous nature, the comparative absence of roads, the difficulty or impossibility of finding water-supplies for the troops composing the various columns operating in different directions, the climatic heat at this season, the treacherous, fanatical character of the opposing tribes, and of course their intimate acquaintance with all the topographical intricacies of the mountains and valleys they inhabit. It is not until the winter begins and snow descends that the tribes swarm down into the valleys in search of pasturage for their flocks and cattle and in order to escape the rigours of the climate on the mountain plateaux, and it is consequently at that season that they can best be got at and attacked. The slight and temporary reverse that overtook General Jeffreys' brigade not only gave rise to some loss of life, but probably served, as we have said, to fan the flame of insurrection by influencing the waverers. It was, however, only what must be occasionally expected in such warfare, for it is most difficult, if not impossible, altogether to guard against such occurrences as mistaking a mountain path in the dusk, and the sudden and unexpected appearance of hordes of native tribesmen. The effect of the check, however, was of a very temporary nature and was soon neutralised by the successful action of the general and his brigade that almost immediately followed it. The night attacks on our posts and camps, too, are peculiarly harassing. Nothing is more remarkable than the stealthy, cat-like way in which the tribesmen make, and conceal, their approach preceding their sudden "rushes." Transport, stores, ammunition, field hospitals, and, in short, all the arrangements for a serious expedition on a big scale are being made and by now are approaching completion. Sir William Lockhart, whose experience of like warfare on the north-west is very great, will soon be ready to assume the supreme command. It is necessary to deal with Asiatics with the utmost promptitude, but it is still more essential in Asiatic warfare to sustain no reverse, and every arrangement must be completed before advancing in full strength for following up blow by blow upon the enemy.

People in this country have but little idea of the enormous number of native followers and of the very large amount of animal transport, for none of a vehicular kind is practicable, that are required for an Indian expedition of this kind. The strain on the medical service must be great at head-quarters in Simla at the present time and the duties of the medical officers in the field of a very arduous character. The organisation of a field hospital system and of medical matters generally has, however, been placed on a much simpler and better footing than it was at the commencement of the last Afghan wars. So far as we can learn the health of the troops is good, and nothing could be better than their spirit and bearing. It was reported that cholera had broken out in the Hyderabad contingent on its way to the front and that the contingent had been halted at Aligarh, but this is, of course, a very great distance from the scene of the frontier operations, and the occurrence is consequently without any significance as regards the expedition. It must always be borne in mind that this Indian frontier revolt is, after all, but an acute exacerbation on a bigger scale of a chronic and local trouble which the Indian Government can assuredly, and will, bring to a successful end. The latest intelligence—for the current of events is now moving rapidly—shows that the blows inflicted on the Mahmunds by General Jeffreys' brigade are compelling their submission. The two converging lines of the British advance under Generals Elles and Blood have already joined hands, and promise to settle the opposition north of the Khyber Pass. The intended expedition against the Afridis and Orakzais which is soon to follow under Sir William Lockhart will, we have every reason to hope and believe, inflict a severe lesson on those strong and turbulent tribes. It seems to be quite likely that the ultimate result of this campaign may be to bring about a far more satisfactory and peaceful state of things on the frontier than has hitherto been the case.

THE DEVON AND EXETER HOSPITAL.—The Hon. Mark Rolle has recently offered £500 to the Devon and Exeter Hospital on condition that a sufficient sum be raised to clear the debt of £2000. This offer is only open to Oct. 1st, and it is to be hoped that the amount required will be raised.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6815 births and 3909 deaths were registered during the week ending Sept. 18th. The annual rate of mortality in these towns, which had declined in the five preceding weeks from 29·5 to 19·4 per 1000 further fell last week to 18·5. In London the rate was 16·1 per 1000, while it averaged 20·2 in the thirty-two provincial towns. The lowest rates in these towns were 10·7 in Cardiff, 10·9 in Swansea, 12·0 in Croydon, and 13·1 in Halifax; the highest rates were 25·8 in Preston, 26·1 in Sunderland, 28·4 in Norwich, and 29·8 in Salford. The 3909 deaths included 721 which were referred to the principal zymotic diseases, against 1272 and 945 in the two preceding weeks; of these, 454 resulted from diarrhœa, 64 from whooping-cough, 54 from "fever" (principally enteric), 53 from measles, 49 from diphtheria, and 47 from scarlet fever. The lowest death-rates from these diseases were recorded in Plymouth, Swansea, Halifax, and Bristol; and the highest rates in Salford, Hull, Wolverhampton, and Preston. The greatest mortality from measles occurred in Wolverhampton and in Preston; from "fever" in Norwich; and from diarrhœa in Wolverhampton, Salford, Preston, Hull, Sunderland, and Gateshead. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 49 deaths from diphtheria included 35 in London, 2 in West Ham, 2 in Wolverhampton, and 2 in Liverpool. No fatal case of small-pox was registered during the week either in London or in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 3653, against 3448, 3528, and 3579 on the three preceding Saturdays; 376 new cases were admitted during the week, against 356, 371 and 376 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 116 in each of the two preceding weeks, were 113 last week, and were 47 below the corrected average. The causes of 49, or 1·2 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Manchester, Bradford, Hull, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Nottingham, Liverpool Salford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1 and 18·3 per 1000 in the two preceding weeks, further rose to 19·4 during the week ending Sept. 18th, and was 0·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Perth and 18·1 in Aberdeen to 21·7 in Paisley and 22·8 in Greenock. The 579 deaths in these towns included 58 which were referred to diarrhœa, 17 to whooping-cough, 9 to "fever," 8 to diphtheria, 5 to measles, 2 to scarlet fever, and 2 to small-pox. In all, 101 deaths resulted from these principal zymotic diseases, against 127 and 98 in the two preceding weeks. These 101 deaths were equal to an annual rate of 3·4 per 1000, which corresponded with the mean rate last week from the same diseases in the thirty-three large English towns. The 58 fatal cases of diarrhœa showed a slight further decline from the numbers recorded in recent weeks, and included 22 in Glasgow, 12 in Edinburgh, and 7 in Dundee. The deaths from whooping-cough, which had declined from 23 to 15 in the three preceding weeks, rose again to 17 last week, of which 7 occurred in Glasgow, 5 in Dundee and 3 in Greenock. The deaths referred to different forms of "fever," which had been 4 and 5 in the two preceding weeks, further rose to 9 last week, of which 8 were registered in Glasgow. The 8 fatal cases of diphtheria also showed a further increase upon those recorded in recent weeks, and included 3 in Edinburgh, 2 in Glasgow, and 2 in Dundee. The 2 deaths from small-pox were registered in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 69 and 78 in the two preceding weeks, further rose to 96 last week, and exceeded by 41 the number in the corresponding week of last year. The causes of 26, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·1 and 22·4 per 1000 in the two preceding weeks, rose again to 23·9 during the week ending Sept. 18th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 23·4 per 1000, the rate during the same period being 20·1 in London and 18·3 in Edinburgh. The 160 deaths registered in Dublin during the week under notice showed an increase of 10 upon the number in the preceding week, and included 28 which were referred to the principal zymotic diseases, against 33 and 28 in the two preceding weeks; of these 13 resulted from diarrhœa, 6 from "fever," 5 from whooping-cough, 3 from diphtheria, and 1 from scarlet fever. These 28 deaths were equal to an annual rate of 4·2 per 1000, the zymotic death-rate during the same period being 2·3 in London and 3·0 in Edinburgh. The 13 fatal cases of diarrhœa showed a further decline from the numbers in recent weeks, but the 6 deaths referred to different forms of "fever" exceeded the number recorded in any week since February last. The 5 fatal cases of whooping-cough also showed an increase upon those registered in recent weeks. The fatal cases of diphtheria, which had been 4 and 3 in the two preceding weeks, were again 3 last week. The 160 deaths in Dublin last week included 35 of infants under one year of age and 38 of persons aged upwards of sixty years; the deaths of infants showed a further decline, while those of elderly persons exceeded the number recorded in any recent week. Ten inquest cases and 8 deaths from violence were registered; and 60, or more than a third, of the deaths occurred in public institutions. The causes of 15, or more than 9 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN WHITLEY B. STOKES, half-pay, resigns his commission. Brigade-Surgeon-Lieutenant-Colonel Holmes is appointed to the Medical Charge of the 31st Regimental District. Brigade-Surgeon-Lieutenant-Colonel Fawcett embarks for Bombay in the *Simla*, taking out the 1st Grenadier Guards to Gibraltar. He will be assisted by Surgeon-Major Kilkelly, senior medical officer of the battalion. Surgeon-Captain Wright embarks for Malta. Surgeon-Colonel T. O'Farrell resumes the post of Principal Medical Officer of the Home District.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Captain H. Bennett has delivered over Medical Charge of the Ahmedabad Central Prison and Surgeon-Captain Faichnie, A.M.S., has received Medical Charge of that institution. The following officiating appointments have been made:—2nd Bombay Lancers: Surgeon-Lieutenant Strange to the Officiating Medical Charge, vice Surgeon-Captain Jackson, transferred. 3rd Bombay Light Cavalry: Surgeon-Lieutenant King to the Officiating Medical Charge, vice Surgeon-Captain Cleveland. 7th Bombay Infantry: Surgeon-Captain Donovan to the Officiating Medical Charge, vice Surgeon-Major Jervis. 9th Bombay Infantry: Surgeon-Captain Gabbett to the Officiating Medical Charge, vice Surgeon-Major Willis. The under-mentioned medical officers have been detailed for duty with the Field Hospitals proceeding to Rawalpindi with the 2nd and the 3rd Malakand Reserve Brigade:—23rd British Field Hospital: Army Medical Staff—Surgeon-Major Addison, Captain Slayer, Captain Read, and Captain Lewis. 24th British Field Hospital: Army Medical Staff—Surgeon-Major Yourdi, Major Berryman, Captain Austin, and Captain Marder. No. 62 Native Field Hospital: Surgeon-Major Willis, 9th Bombay Infantry; Surgeon-Captain Hudson, 2nd Bombay Grenadiers; Surgeon-Captain H. Bennett, I.M.S., 4th Bombay Rifles; and Surgeon-Lieutenant R. H. Price, Poona District. No. 63 Native Field Hospital: Surgeon-Lieutenant-Colonel Barren, Bombay Sappers and Miners; Surgeon-Captain V. B. Bennett, 13th Bombay Infantry; Surgeon-Lieutenant A.

Hooton, Poona District; and Surgeon-Lieutenant H. A. Knapton, officiating 23rd Bombay Rifles. No. 46 Bombay Native Field Hospital: Surgeon-Captain Cleveland, 3rd Bombay Light Cavalry. Surgeon-Captains Vickers and Wright have been posted to the Poona District.

NAVAL MEDICAL SERVICE.

The following appointments have been notified:—Staff-Surgeons: Arthur S. Nance to the *Pearl*; John J. Dinnis to the *Collingwood*; and John Moore to the *Mohawk*. Fleet-Surgeon Charles E. Gedding to the *Haulbowline*. Surgeons: Francis J. Barter to the *Heron*; Oswald Rees to the *Jackdaw*.

VOLUNTEER CORPS.

Rifle: 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant R. Grant, to be Surgeon-Captain. 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Lieutenant William Henry Hender Bennett, M.B., resigns his commission, and is appointed Second Lieutenant; Samuel Lee Potter, gent., to be Surgeon-Lieutenant. 24th Middlesex: Surgeon-Lieutenant A. Eddowes, M.D., to be Surgeon-Captain.

ERYTHREAN SICK AND WOUNDED AT NAPLES.

A recent number of the *Giornale Medico del Regio Esercito* contains an interesting report by Dr. J. Alvaro, Lieutenant-Colonel in the Italian army, on the sick and wounded soldiers belonging to the forces employed in Africa who were admitted to the military hospital at Naples during the period from the beginning of March to the end of August, 1896. The total number of patients treated was 1647, their disabilities being classified as follows: medical, 826; surgical, 590; ophthalmic, 47; venereal, 171; under observation, 13. Of these, 988 cases were discharged cured and 146 were sent to their homes on leave, the remainder being disposed of in the following manner: invalided, 66; transferred to other hospitals, 313; died, 38; remaining under treatment on Sept. 1st, 96. The wounded, who numbered 419 in all, were arranged in the following order: visceral contusions and "commotions," 13; wounds from sharp weapons, 67; contused wounds, 14; gunshot wounds, 306; dislocations, 11; fractures, 8. Amongst the wounds inflicted by sharp weapons there were 23 cases of injury to the organs of generation, the parts having been completely excised close up to the pubes in no fewer than 24 instances. The chief difficulty in treating these unfortunate victims of savagery lay in maintaining a patent urethra. V-shaped incisions round the retracted orifices gave the best results, but in all cases sounds have to be worn more or less permanently. The number of men injured by "cold steel" strikes the author as exceptionally high in proportion to the total, seeing that of recent years wounds thus sustained have exhibited a constant tendency towards diminution. With regard to what may, perhaps, be styled civilised warfare this statement is no doubt correct, but where savages are concerned spears, swords, and assegais are still favourite weapons, and punctured or incised wounds must always be expected. Some of the cases related in detail by Dr. Alvaro are noteworthy. A man who had received a gunshot wound of his thigh on a level with the great trochanter remained lame and a sufferer from excessive pain extending down to the knee. It was thought that the external cutaneous nerve had become implicated in the cicatrix, which was accordingly laid open and carefully re-united by interrupted sutures. Cure was complete. A soldier sustained a gunshot wound of his forearm in the posterior aspect of the middle third, and directed from above downwards and from behind forwards. There was no aperture of exit, and neither at Massowah nor Naples could the locality of the projectile be determined. The wound had healed rapidly, but pronation and supination were both greatly interfered with. Under these circumstances recourse was had to the Roentgen rays, when at once the situation of the foreign body was made manifest. An operation promptly followed with the best results, the long-sought missile being found lying on the interosseous ligament. In another case the victim must have been endowed with an exceptional amount of recuperative vitality. A bullet entered his side about one and a quarter inches below the ribs, and, having traversed the ilium, made its exit in the upper part of the sacral region. There was a stercoral fistula at the aperture of entrance, and on examination through that of exit it was found that the subjacent bone was extensively shattered. In addition to this formidable injury the unfortunate patient had also sustained incised wounds of the neck the nose, the temporal and occipital regions, the knee, and the forearm. An operation for the fistula was projected, but the usual antiseptic treatment having meanwhile been adopted the wound of entrance closed of its own accord and the man was invalided.

SOME MILITARY APPOINTMENTS.

The appointment is officially announced of General Sir William Lockhart as Commander-in-Chief in India, in succession to General Sir George White, who, as soon as his services can be spared in India, will return to this country and take up the post of Quartermaster-General. Sir William Lockhart, who belongs to the Indian Army, in addition to his distinguished services and military reputation, is regarded as a very able, straightforward officer, and is deservedly popular with all branches of the military services. Sir George White, V.C., succeeds Sir Evelyn Wood, V.C., as Quartermaster-General, and as, *ex-officio*, President of the Army Sanitary Committee is brought into connexion with questions affecting the sanitary medical requirements of the army.

THE RECALL OF INDIAN MEDICAL OFFICERS.

All leave in the Medical Service in India is closed, and the officers at present in this country are being, if they have not already been, recalled.

The *Broad Arrow* says: "In the combined examinations for first commissions in the Army Medical Staff and Indian Medical Service, the successful candidates will, without the necessity of previously recording their names for either establishment, be allowed in future to exercise their choice as to which Service they prefer in the order of precedence that they may have obtained upon the list. Their selection will, however, in the case of the Army Medical Staff, be subject to the special regulations already applicable to entry for that service."

The Queen has conferred the Jubilee Commemoration Medal upon Surgeon-Captains V. Matthews, T. H. Openshaw, and H. D. Buss, and Surgeon-Lieutenant J. R. Whait, officers of the Volunteer Medical Staff Corps.

A revised edition of the Regulations for the Army Medical Service has been published.

Correspondence.

"Audi alteram partem."

"THE ELECTION OF A DIRECT REPRESENTATIVE ON THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—It may be for your convenience and that of the profession generally that I should inform you at the earliest opportunity that the President of this Council having referred to its legal advisers a communication he received from Dr. Rentoul on the 18th instant, the opinion has been definitely given that the withdrawal of his resignation therein intimated is inoperative, and that there must be an election as already arranged.

I am, Sirs, yours faithfully,
H. E. ALLEN, Registrar.

General Medical Council Office, 299, Oxford-street,
London, W., Sept. 22nd, 1897.

To the Editors of THE LANCET.

SIRS,—The auspicious advent of Mr. Victor Horsley, F.R.S., M.B., M.S. Lond., and F.R.C.S. Eng., as a candidate to fill the vacancy caused by the retirement of Dr. R. R. Rentoul from the General Medical Council should be the subject of much satisfaction to the whole profession, and it offers an opportunity of retrieving in some measure the result of last year's election. In Mr. Victor Horsley we have a star of the proper magnitude, a young, brilliant, and eminent surgeon of high social position and of means, which guarantee the quality of "stay" so desirable in one who aspires to the responsible office he has expressed his willingness to fill.

I trust the other candidates already in the field will at

once, though, of course, at much personal sacrifice of their laudable ambition, magnanimously withdraw in his favour, and thereby prove in the most convincing manner the sincerity of their expressed regard for the honour and dignity of the profession. I would venture, moreover, to deprecate any renewed attempt to confuse or endanger the issue of the election by dragging in the name of either of the deeply respected and lately retired members who have deservedly been rewarded by the presentation of the gold medal of the British Medical Association and the LL.D.-ship of the leading university of Canada. Let them now rest in kindly peace. In Mr. Victor Horsley surely we have the right man for the present occasion, and now is the hour to secure his triumphant election.

I am, Sirs, your obedient servant,

JOHN INCE, M D. ST. AND.,
H.M.'s Indian Medical Service (retired).

Swanley, Kent, Sept. 20th, 1897.

To the Editors of THE LANCET.

SIRS,—In view of the forthcoming election for the vacant seat on the General Medical Council I would recall to mind the old views of Mr. Nelson Hardy, as printed in a letter in the *Provincial Medical Journal*, Aug. 2nd, 1886. I do not bring it forward to emphasise his change of view, but because he has so well expressed the general feeling of general practitioners and my own views. He then said: "I trust no one will suppose that I wish to dictate to others if I express my belief that it will be unfortunate indeed if the general practitioners of England cannot find men of their own class to represent them in the Council, men of sterling honesty and straightforwardness, men not to be moved from their purpose by the presence at the same Council table of those who while in regard to practice they are fully regarded as leaders in medicine and surgery in matters of medical politics have too generally constituted to make the Medical Council the failure which it has been in the past."

I would also recall to mind the words of the late Sir Andrew Clark, who wrote in the same year as follows: "Now that the interests of consultants and of teachers, of corporations and of universities, of the Crown and of the people are already more than adequately represented on the General Medical Council, and that the right of direct representation therein has been conceded to the repeatedly renewed claims of the general practitioner, it seems both natural and proper that they should themselves exercise the suffrage in their own behalf, that they should select as their own representative genuine working members of their own body. If this principle of election is disregarded, and if the representatives are chosen from outside the body of general practitioners, it will seem, at least to me, that the fight has been fought and the battle won in vain." Nothing that has occurred justifies, in my opinion, any change in our representation. There are 14,000 general practitioners in England and Wales, and surely they ought to be able to find one suitable candidate amongst them. I have been nominated, as you will see by the enclosed paper, by nearly all the medical men in Wigan, and I have received letters from influential men in different parts of the country all promising me votes and active support. I have been asked to retire in favour of Mr. Victor Horsley by a few of his friends. I do not desire a contest. I am quite willing to withdraw in favour of a suitable candidate who is a general practitioner if we can agree upon one, but I certainly must decline in any way to favour the candidature of Mr. Horsley for the reasons mentioned. I think most consulting surgeons will recognise the equity of my contention.

I am, Sirs, yours very truly,

THOMAS M. DOLAN, M.D. Durh., J.P.,
Member of Council, B.M.A.; President Elect, Yorkshire Branch, B.M.A.

Halifax, Sept. 20th, 1897.

*** Dr. Dolan encloses with his letter a copy of his nomination paper signed by sixteen of the thirty-six practitioners whose names are given in the Medical Directory as resident in Wigan.—ED. L.

To the Editors of THE LANCET.

SIRS,—All other things being equal, I think there is no doubt we should give the preference to a general practitioner as our representative on the General Medical Council. The candidature, however, of Mr. Victor Horsley must not be considered by the profession from a consultant's point of view. Although it is well known to many practitioners, yet it is hardly universal knowledge that the good work done during the past few years by the Medical Defence Union has been mainly due to the zeal and application of its president, Mr. Horsley. To those who are not fully acquainted with the routine work of the Union I would explain that its officers are brought into close contact with all sections of the profession throughout the United Kingdom. They become intimately acquainted with the various difficulties and dangers of a general practitioner's life; they possess full knowledge of the ever-recurring disputes that arise between the profession and public bodies; they become conversant with the various forms of quackery; and, moreover, they know the difficulties of suppressing it. Bearing all this in mind, I for one unhesitatingly assert that there is no general practitioner in the country who possesses a fuller knowledge of, or has a greater sympathy with, the lot of the family medical man than the present President of the Medical Defence Union. That Mr. Horsley has studied the Medical Acts and that he has kept himself *au courant* with the proceedings of the General Medical Council is common knowledge. That he has by his persistency succeeded in getting the Council to take up certain cases of "infamous conduct" is, however, not so well known.

I am, Sirs, your obedient servant,

T. GARRETT HORDER.

Windsor-place, Cardiff, Sept. 17th, 1897.

To the Editors of THE LANCET.

SIRS,—The morning paper announces that Dr. Rentoul has withdrawn his resignation of membership of the General Medical Council. Surely, if it is true it is too late to have any effect now that the President has issued notices for a new election. May I ask my medical brethren seriously to consider the present position of affairs before promising their votes. The election of Dr. Rentoul showed clearly that there is a spirit of dissatisfaction in the profession at the little power the General Medical Council possess to remedy the numerous grievances of the local practitioners. Dr. Rentoul has shown in many ways, and especially by his uncertainty of mind, that he is not the man to obtain for the profession that attention to their wishes from the General Medical Council or the Government which they expected. As there are two metropolitan members already on the Council for England, it would naturally seem right to have a provincial practitioner to fill the vacancy, and if Sir W. Foster or Mr. Wheelhouse could be induced to stand, either of them would have influence to make the wants of the profession listened to and considered. If not, I would suggest Mr. Victor Horsley as a gentleman who has proved by his management of the Medical Defence Union that he is a good business man, and having experience of the trials and difficulties of the medical practitioners would admirably represent us on the Council. His connexion with the Medical Defence Union would have to be severed, but it seems to me, as I have watched his control of that Union, that he would prove a living power on the General Medical Council by his moderation and sound common sense.

I am, Sirs, yours faithfully,

A PRACTITIONER OF FORTY YEARS' STANDING.

Sept. 20th, 1897.

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS.

To the Editors of THE LANCET.

SIRS,—Many of the British members desire to send letters of thanks (through the British ambassador) to H.I M. the Czar for the very gracious hospitality shown to them by His Majesty, and to the president and committees for their great kindness. Any member wishing to have his signature added is requested to forward his name to Dr. R. Caton or to myself.

I am, Sirs, yours faithfully,

4, Gloucester-place, Portman-square, W. JOHN LOWE.

"HONOUR TO WHOM HONOUR IS DUE."

To the Editors of THE LANCET.

SIRS,—In the admirable historical dermatological address by Mr. M. Morris at Montreal on the occasion of the

British Medical Association meeting I notice he has omitted to mention a name which some of the old practitioners of the present Victorian era will. I am sure, remember with respect—viz., that of the elder Startin, who was the first who taught and lectured on dermatology, and whose forty lectures are published in the *Medical Times* of London of 1845-46, and which lectures, I believe, were attended by the late Sir Erasmus Wilson, Dr. Tilbury Fox, and Mr. Jonathan Hutchinson, Mr Waren Tay, and other eminent dermatologists and practitioners at the time.

I am, Sirs, yours faithfully,

Harley-street, W., Sept. 22nd, 1897. JAMES STARTIN.

"AN IMPROVED ŒSOPHAGEAL PROBANG."

To the Editors of THE LANCET.

SIRS,—I understand that in THE LANCET of Sept. 18th, is a notice of an improved œsophageal probang, with illustrations. May I remind you, in fairness to myself and Messrs. Arnold, that on Jan. 9th this year you kindly published a notice and illustration of an improved œsophageal probang designed by me, and carried out by Messrs. Arnold, which embodied the improvements claimed by this later one; that is, that it is capable of being passed down the gullet without opening the bristly umbrella, and that when it has gone sufficiently far finger and thumb (of the same hand which passed it) release the catch, push down the catheter, and pull out the whole apparatus, now expanded.

I am, Sirs, yours faithfully,

E. MANSEL SYMPSON, M.D CANTAB., M.R.C.S. ENG.

James-street, Lincoln, Sept. 21st, 1897.

A QUESTION IN ORTHOGRAPHY.

To the Editors of THE LANCET.

SIRS,—In your last issue (THE LANCET, Sept. 18th, 1897) Dr. A. E. Wright communicated a paper on "A Simple Method of Measuring the Alkalinity of the Blood" which depends upon that system of chemical analysis known as "Alkalimetry." The application of this method to blood Dr. Wright calls "hæmalkimetry"; that is, he drops two fundamental letters, "al," between the "k" and "i." But whence does Dr. Wright derive "tritrate," a word I am confident has not been seen in print before? He cannot mean "triturate," it is certain. Gay-Lussac, the great French chemist, was the founder of volumetric analysis, alkalimetry, &c., and he called it "titrimetry," doubtless from the French word "titre," a standard or measure. The German verb to titrate is similarly "titriren."

I am, Sirs, yours faithfully.

CHEMICUS.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Inspection of Corporation Hospitals.

THE members of the Hospitals Committee of the City Council made their annual inspection of the city hospitals on the 10th inst., under the guidance of Dr. Clarke, the chairman of the committee. The Port Sanitary Offices at the Pier Head were first visited. Here the new mortuary is situated, the erection of which was due to the persistent representations of Mr. F. W. Lowndes to the local authorities. Mr. Lowndes left no stone unturned until the disgraceful condition of things under which post-mortem examinations were formerly made were finally done away with; the latter are now made with comfort and decency, and the building is in every way creditable to the health authorities. The City Hospital South, which has been considerably improved, was next visited. The committee were shown round the building, special attention being directed to the provision for convalescent patients. Park Hill Hospital, where small-pox patients are received, afforded the visitors much delight, the charming aspect of the site enhancing the comfort of the general arrangements, which are in every way admirable. Luncheon was served at this institution. Mill-lane Hospital, Old Swan, which since its erection by the Old West Derby and Wavertree local boards has been considerably enlarged, was also visited. The last to be inspected were the Priory-road and Netherfield-road Hospitals, the latter of which is the most complete of the City Hospitals. The arrangements everywhere were acknowledged by the visitors to be highly satisfactory and afforded them much gratification and instruction.

Hospital Saturday in Bootle.

The result of the Hospital Saturday collections in Bootle and district in aid of the Bootle Borough Hospital show a falling off as compared with last year. The total receipts amounted to £257 16*s.* 2*d.*, or £22 less than last year. The falling off was altogether due to the inclement weather prevailing at the time of the collection.

Liverpool and the Manchester "Effluent."

It is not at all probable that the Bill which it is the intention of the Manchester Corporation to promote in Parliament relating to the discharge of Manchester sewage into the Mersey will proceed unchallenged. The two corporations in Liverpool concerned in the matter are the Dock Board and the City Council, the first of which deals with the navigation of the river and the latter with the sanitary condition of the port. Now it is not at all certain, even if the Manchester sewage be chemically treated, that it would not still be charged with deleterious matter. Besides, if a high standard of purification were fixed, its enforcement, in spite of heavy penalties, would always be a matter attended with difficulties. As far as the Dock Board is concerned, it is also open to doubt whether the Manchester effluent would not sooner or later affect the navigation of the Mersey. Altogether the subject bristles with difficulties and appears to excite much unfavourable comment in the local press.

Presentations to Dr. John Robertson and Dr. J. H. Chapman.

Dr. John Robertson, late medical officer of health of St. Helens, has been the recipient of a specially made table and writing-case subscribed for by the officials of St. Helens Corporation with all of whom he was deservedly popular. The many friends of Dr. J. H. Chapman, who recently resigned the medical superintendence of the Mill-road Infirmary owing to ill-health, have presented him with a testimonial and a cheque for £250 prior to his departure for South Africa as a mark of esteem for his many good qualities.

Liverpool Medical Institution.

The President (Dr. Caton) will deliver the inaugural address at the opening of the fifty-eighth session on Oct. 7th, after which he will entertain at the institution the members and associates to supper which will be followed by a smoking concert. The annual dinner of the society will take place at the Exchange Hotel on Saturday evening, Nov. 6th; the chair will be taken by Dr. Caton.

Sept. 22nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Gilbert Ward, F.R.C.S. Eng.

THE Thomas Knight Memorial Hospital at Blyth was last week the scene of a very interesting ceremony, when a bust of the late Mr. Gilbert Ward, of Blyth, was unveiled by the Right Honorable Sir M. White Ridley, M.P. The bust was executed at Venice, by Antonio Frilei, and is an excellent likeness. Mr. Ward took a great interest in the Knight Hospital, as indeed he did in all the Blyth institutions, and it was mainly owing to his exertions that the hospital was built. Mr. Ward was one of the best known and respected of the inhabitants of Blyth—he lived in the town, and practised as a medical man for sixty years, and died a few years ago, aged ninety years.

The Extra Arts Examination at Durham.

The lamentations over the result of this examination just concluded at Durham are both loud and deep. Forty-seven candidates entered their names, of whom four failed to put in an appearance, fourteen passed, and twenty-nine were rejected. The rejections at this examination are always very heavy, but it is a long time since such a result as this—only fourteen candidates succeeding in satisfying the examiners out of forty-three examined. If the Durham Extra Arts Examination be a correct criterion, school education would seem to be in a most unsatisfactory condition. It

would be interesting to hear what schoolmasters have to say about this students' bugbear the Extra Arts Examination at Durham.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Cork-street Fever Hospital, Dublin.

THE committee of management of this old-established hospital have recently presented their ninety-third annual report to the governors and subscribers. They had hoped, as stated, that on the cessation of the small-pox epidemics of the previous years, and after the crowded state of the wards during the last four years, they would have been able to report a period of comparative rest, but the contrary has been the case, and the time under review has witnessed a greater number of admissions than in any previous year, no fewer than 2632 patients having been treated. The increase of cases, it is noted, was caused by a considerable epidemic of scarlet fever, joined with smaller epidemics of measles, while there has been a most unusual recurrence of typhus fever, once so formidable in Dublin. The new convalescent home in connexion with the hospital, and situated at Glasnevin, has at present accommodation for only thirty patients. The house can, however, be enlarged, and the site, which occupies twenty acres, is quite suitable for the erection of additional buildings. It is at present the only convalescent home in Ireland for infectious cases.

Hospital Vacancies.

Mr. W. G. Mackenzie has resigned the surgeoncy to the Belfast Hospital for Sick Children. As a result Dr. Kirk will be promoted to the visiting staff, and for his post of assistant surgeon there are already several candidates in the field. The appointment of assistant gynæcologist to the Royal Hospital has become vacant through Dr. Woods' resignation on his leaving Belfast. His successor will be chosen by competitive examination on Oct. 9th.

Sept. 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dangers in Operations for Exophthalmic Goitre.

M. PONCET, of Lyons, has reopened this important question before the Academy of Medicine. Hitherto very contrary opinions have been given on the matter and those, too, from observers most competent to decide the question, such as M. Pean, M. Doyen, and M. Jaboulay. M. Pean considers that it is in nowise an exaggeration to maintain that no surgeon should operate on the thyroid gland in a case of exophthalmic goitre without having very seriously considered the advisability of interfering. Professor Tilleaux considers that only spurious cases of exophthalmic goitre should be operated on—that is to say, those benign tumours of the thyroid gland which cause secondary troubles of Graves's disease sooner or later by compression of the cervical sympathetic. Such cases ought to be considered as ordinary goitres and treated as such. M. Poncet is of opinion that such a degree of caution is exaggerated in cases of simple exophthalmic goitre where the classical triad of symptoms is present from the first. Like M. Pean, or perhaps even more so, he considers that medical treatment should be relied upon for as long as possible—that is to say, until suffocation is imminent; and even then, before interfering with the thyroid body itself, an attempt should be made to give relief by a simple incision through the soft parts in front of the tumour. In all cases of Graves's disease medicinal treatment should be tried first, and continued even though amelioration be slow, in patients who are in a position to undergo the restrictions imposed by the treatment. In those patients who cannot do this, or who become rapidly cachectic or relapse after a temporary improvement, operation should be advised before the general health becomes too much impaired; but both the patient and his friends should be told that there are risks to be run. If the tumour is of medium size either complete enucleation should be performed or a partial thyroidectomy; if the growth is very large and vascular exothyropexy should be performed, despite the chance of failure. Excision can always be resorted to as a secondary measure when a partial thrombosis of the vessels has been set up by exposure to the air, thus diminishing the operative difficulties and the danger of intoxication. As regards the class of thick, fleshy tumours or cases of Graves's disease without a goitre or only a very small one and where the vaso-motor troubles are very marked, or, finally, where the patient, after having been warned of the danger of operative interference with the thyroid body, has refused to undergo the risk, the question of section of the sympathetic should be raised. The operation of ligature of the thyroid arteries which has been advised by many surgeons of the first class, such as Kocher and Rydigier, M. Poncet refused to discuss, as he said he had not enough experience of the operation to enable him to form any opinion as to its value.

Filtered Water for the Army.

M. de la Perriere read a paper before the Academy of Medicine upon the Rapid Purification of Water for Troops on Active Service. His method is to treat the water with a mixture of permanganate of potash, alum, and lime, and then filter it through wool impregnated with oxide of manganese. The whole process can be carried out by a filter which he has invented and which is no larger than the *bougie* of an ordinary filter; it sterilises and filters the water at the same time whatever be the degree of impurity.

Hygiene for Barbers.

At the request of the Hygienic Council for the Department of the Seine the Prefect of Police has just issued an order to all the haircutters of Paris containing instructions as to the measures to be taken for guarding against those diseases which are likely to be spread by the exercise of their trade. First of all, all metal instruments are to be plunged directly after use into a vessel of soapy water which has been boiling for at least ten minutes. All combs of tortoiseshell, ivory, celluloid, or buffalo-horn are to be replaced as far as possible by metal ones, so that they may the more easily be cleansed and disinfected: scissors, razors, clippers, and brushes are to be kept in a stove heated to 100° C. or in a closed receptacle in the lower part of which is a solution containing formaldehyde and sodium chloride in the proportion of 50 grammes of the former to 200 grammes of the latter. Before use, shaving-brushes must be dipped into boiling water, and instead of powder-puffs, blowers (*pulverisateurs à sec*) are to be used. Finally all hair-dressers must wash their hands before passing from one customer to another, and after anyone has had his hair cut, damp sand is to be sprinkled on the floor so that the hair may be swept up and burnt at the end of the day. The hair-dressers have protested against this order, which they declare to be quite inapplicable to their trade.

The Bacteriological Laboratory.

The total number of cases sent in to the bacteriological laboratory of the department of the Seine during the month of August for diagnosis was 147. Of these 94 were cases of doubtful sore throat, but in only 16 was the bacillus of Löffler discovered—that is to say that 17 per cent. of the cases examined during the month were considered diphtheritic. The figure is notably lower than that of July, 1897, when it was 19·6. In 1896 the number of deaths in Paris from diphtheria during August was 29, but in 1897 for the same month the number was only 12. Of the other 50 cases sent in for diagnosis 36 were cases of suspected tubercle, and in 15 of them the bacillus of Koch was found.

The Fight against Tuberculosis and other Diseases Affecting Meat as Food.

A certain number of departmental boards of works have sent in requests to the Government to take measures against the spread of tuberculosis. For instance, the board of works of the Côte d'Or says:—"Seeing the urgency of staying the spread of tuberculosis among live stock as much in the interest of the consumer as of the producer, this board considers that the authorities should seriously consider means towards the same, notably the employment of tuberculin to ascertain when beasts are affected; that a law should be passed making the use of tuberculin obligatory in the case of all beasts destined for the butcher or for the supply of milk; and that this law should at the same time order all such sanitary measures to be taken as are necessary for the complete extinction of this disease." The board of works of the Gironde

has adopted a resolution as follows: "That the law should define those diseases, whether contagious or not, which render meat unfit for food; that it should set out the penalties which may be exacted from those who prepare such meat with a view to its use as food; that it should order every commune to organise in all public or private slaughter-houses or knackers' yards a service for thorough surveillance which may seize and destroy all meat unfit for food; that in the draft Bill now submitted to Parliament as to abattoirs, &c., veterinary inspection of such establishments should be made obligatory; that such inspection should be a charge on the rates of the various communes, and that they should also be able to impose a *taxe de visite*; and, finally, that there should be an effective State control over the various local inspecting bodies, both administrative and technical, by means of special sanitary officers."

Malignant Pustule.

M. Le Roy des Barres has recently met with two cases of malignant pustule occurring in persons engaged in working with hair which had come partly from the Côtes du Nord, a district where no case of anthrax has been reported for several months, and partly from Buenos Ayres; four other cases were met with in patients who had been working among hides brought from Turkey and Kazan. The local use of the thermo cautery, injections containing 10 per cent. of iodine, together with the internal administration of oxygenated water and iodised water, were fortunately successful in saving the patients' lives. One of the patients who suffered from very marked general œdema of the whole of the upper part of the body, was in great danger for a long time, and it was necessary to inject pure tincture of iodine into the eyelid where the pustule had formed and where the bacteria were localised. In his communication to the Academy of Medicine M. Le Roy des Barres stated that in the course of some years he had observed seventy-two cases of malignant pustule, among which there were sixty-two recoveries. Fifty-seven of these patients were leather-dressers and fifteen were workers among hair. Anthrax is invariably conveyed by hides, skins, wool, and hair coming from abroad, and it is obvious that the importation of these products cannot be prohibited, and it is almost impossible to sterilise or disinfect them. At the same time cases of the disease are comparatively rare, treatment is said to be generally successful, and much may be done in the way of reducing the number of attacks by the adoption of hygienic precautions.

Sept. 22th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Pull Devil, Pull Baker."

WHILE a brilliant essayist has been amusing himself—if not his readers—on the subject, "Che Cosa Mangeranno I Posteri?" (What will our descendants eat?), and discussing the thesis of Berthelot that in the not remote future our "aliments will be manufactured with carbon taken from carbonic acid, with hydrogen and oxygen taken from water, with azote taken from the atmosphere," and so on, the dearness of bread has been agitating nearly every commune, from the Alps to Etna, bringing the proletariat and the poor into sharp collision with the bakers, throwing the bakers themselves "upon strike," and sending deputations from both interests—the consumers and producers—to magistrates, members of Parliament, and even the Prime Minister, the Marquess Di Rudini himself, without, however, as far as one can see, eliciting any hope of a way out of the imbroglio. Local circumstances intervened to modify the situation, which may roughly be described as this: the poor cannot afford to pay 40 centimes (4*d.*) for the "pagnotta" (loaf), and the bakers cannot afford to sell it at less unless the flour is supplied them at a figure below that at which the "dazio consumo" or octroi duty maintains it. What is occurring here occurs, *plus* "local colour," all throughout the kingdom. The Syndic invites the "Associazione dei Negozianti Fornai" (Association of Shop-keeping, as distinguished from "lavorants," journeyman bakers) to offer bread for sale at 40 centimes for the better quality and 38 or 35 centimes for the inferior. The "Associazione" replies, with flour at its present price, "Non possumus." A threat on the part of the Communal Administration to impose "prezzi coercitivi" (compulsory prices) on the bakers is met with a defiant "You had better try." At Venice the journeyman bakers go out on strike, and the "Municipio" (town council) orders two hundred "quintali" (hundredweight) of bread from Milan to keep the "Queen of the Adriatic" from starving; but the strikers have the grim satisfaction of seeing the said municipality constrained to sell it at 30 centimes the kilogramme, a significant commentary on the threat of "prezzi coercitivi." Meanwhile the lack of bread is bringing other aliments to the front, and the potato—in Italy a rather slighted esculent—is having its turn of popularity. Edibles of even humbler sustaining power are also invoked, with the result that "fungi" of more than suspected quality are multiplying the cases, already all too frequent, of "mushroom poisoning." Leaving the fiscal or economic aspects of the situation out of account, the crisis through which Italy is now passing is very grave. "Pazienza" has limits, even among her long-suffering population, and having seen herself deprived of "Circenses" (the gratuitous entertainments provided by the Bourbon) she may draw the line at deprivation of "Panem" as well! Malnutrition is one of the many curses of her labouring poor, infecting the life-blood of the rising generation, prolific of stunted stature, impaired muscular power, and generally of the diseased developments fraught with evil augury for her future. Vainly do her medical philanthropists, like Dr. Angelo Celli, Professor of Hygiene in our medical school, tax their ingenuity to invent a more nutritive dough than that employed by the baking interest. The crushing "dazio consumo" lays its paralysing finger on all such efforts, and forces men like Professor Celli and forty more of the same profession to court a seat in Parliament in order to cut at the root of the evil by fiscal amelioration and financial reform. Some twenty of these medical candidates were returned for as many constituencies at the general election in March last, and nearly all of them sit on the Extreme Left. And *quid mirum?* They are medical philanthropists first and political legislators afterwards; and their first thought is to raise the submerged masses from the slough of insanitation, with its attendant following of disease, crime, and anarchic conspiracy, and place them on the footing promised them when "Italy, one and independent," was substituted for "Italy, a geographical expression." A few figures will show what fearful abuses philanthropists like Dr. Celli and Dr. Colajanni are labouring to remove and agitating the public and Parliament to consider. In Naples alone malnutrition in 1873 caused 131 deaths "con vizi di conformazione congeniti" (congenitally abnormal conformation); and in 1896 the number had risen to 240. In the same city, in 1873, there were 1216 deaths from tuberculosis in its various forms, and in 1896 they rose to 1812. Increase of population does not explain this evil increment, which, as Dr. Colajanni remarks, is "graduale, costante." The Di Rudini Government will soon have to face a reassembled Parliament; and one of its first duties will be to consider the ill-nourished, badly housed, hygienically neglected poor—to leave the "Dark Continent" to take care of itself and to brighten that still darker region around it—the true "Italia Irredenta"—which seethes, suffers, and succumbs.

Sept. 19th.

THE PLAGUE AT POONA AND KIRKEE.—The plague still continues to prevail at Poona, Lanowli, and Kirkee. The bazaar at Kirkee is closed. According to the *Times of India* of Sept. 3rd, twenty-eight cases and twenty-three deaths from plague were reported in one of the latest returns. M. Haffkine is carrying on inoculations at Kirkee, and fresh cases, many of them fatal, were occurring in the cantonment. Surgeon-Major J. P. Barry's trenchant report on Poona city has, as it certainly deserves to do, attracted a good deal of attention. It discloses a dreadful state of things, and although the municipality in their reply traverse many of the allegations their answer cannot be regarded as very successful. Moreover, the report of the municipality was only signed by seven of its members, while two recorded their general approval of Surgeon-Major Barry's report. Lord Ripon's schemes for the introduction of municipal government into India have proved a failure, and, as regards the progress of sanitation in that country, their effect has been anything but good.

Obituary.

ARTHUR BRISLEY RYE, F.R.C.S. ENG., L.S.A.

ANOTHER old practitioner of a past generation has joined the great majority; the subject of this notice passed away painlessly at his residence, Westbury, in the pretty valley of Caterham, on the evening of Sept. 1st, at the advanced age of eighty-five years, and in the full possession of all his faculties. Mr. Rye came of a medical family, and was born in Rochester in 1812, where his father practised as a surgeon. Mr. Arthur Rye qualified in 1836, when he obtained the L.S.A. Lond., and in the following year became M.R.C.S. Eng., and was made a Fellow of the College in 1852. He commenced practice as an assistant to Mr. Harrison, of Greenwich, with whom he remained some time, and then went into private practice at Banbury, in Oxfordshire, where he practised successfully for over thirty years, and won the esteem and confidence of his brother practitioners. Mr. Rye was an enthusiast in his profession, and although he had retired for many years he was never happier than when he could assist a medical friend by giving him a holiday and taking charge of his practice. Mr. Rye had one of those happy, genial dispositions which are always cheerful and humorous, and for his skill and kindness he was much esteemed by his patients. For some years after his retirement Mr. Rye resided at Leckhampton and took great interest in the building and opening of the Delancey Fever Hospital of which he acted as the hon. superintendent for some time. Those who knew him loved him; not a few were the happier for his life; and many a general practitioner will mourn his death and sympathise deeply with Mrs. Rye and family in their loss. Mr. Rye was twice married and leaves one son and one daughter.

ADAM FLETCHER, M.D. EDIN., M.R.C.S. ENG., J.P., &c.

BURY has to mourn the loss of her oldest medical practitioner in the person of Dr. Adam Fletcher, who passed away at his residence, Belgrave-place, Manchester-road, on Aug. 28th. Dr. Fletcher had been in practice in Bury for nearly fifty years. He commenced his medical education under the late Dr. Thomas Wardleworth, and proceeded to Edinburgh University. In all local matters he took a warm interest, was one of the consulting medical officers to the Bury Dispensary Hospital, a churchwarden of the parish church, President of the Bury Ragged Schools, and a member of the Borough and County Benches of Magistrates. For some twenty years also he was a member of the board of management of the Bury Savings Bank. The funeral took place on Wednesday, Sept. 1st, and was very largely attended by relatives and friends, besides representatives of the various public bodies with which the deceased had been connected. At the first meeting of the Borough and County Benches of Magistrates the chairman made sympathetic references to the loss sustained by the death of a colleague for whom they had all such deep respect and affection.

R. J. STEPHENS, M.R.C.S. ENG., L.S.A.

ANOTHER death must be added to the tale of those caused by bicycle accidents, by which a promising career has been sacrificed. On Sept. 11th Mr. R. J. Stephens, of Whittingham, Lancashire, was riding down a gentle slope with his feet up on the rest when his machine was suddenly seen to swerve, and Mr. Stephens fell off, striking his head with great force against the road. He was picked up by his companions, also medical men, and conveyed in an ambulance to Preston Infirmary, where he died the same night. Death was due to a large hæmorrhagic effusion in the brain. The deceased never recovered consciousness after he fell. Richard John Stephens was the son of the late Richard John Stephens, of Kent, and has a brother, also a medical man, in practice at Brighton, as well as a stepbrother, A. C. Dickson, now studying medicine at Cambridge. He was educated at King's College School and passed the matriculation examination at London University; he was also an Associate of King's College. He received his medical education at King's College Hospital, where he held the appointments of assistant demonstrator of physiology and resident accoucheur. He had also been resident medical officer to St. Luke's Hospital, house surgeon to the Blackburn and East Lancashire Infirmary, and assistant medical officer to the Wilts County Asylum, while at the time of his death he was assistant medical officer to the County Asylum, Whittingham. The body was moved on Sept. 15th from the Preston Infirmary to the residence of the deceased's mother, at Blackheath, and interred the following day in the grave in which rests his father's body. During his residence in Lancashire Mr. Stephens made a very large number of friends, by whom their loss will be most keenly felt. His honourable character, and his kindness, sympathy, and consideration for others, which never allowed him to turn a deaf ear to a friend in trouble, endeared him to all who knew him. Mr. Stephens was only thirty-four years of age at the time of his death.

MARK BATT TANNER, M.D. R.U.I. AND ST. AND., M.R.C.S. ENG., L.R.C.P. LOND. AND EDIN.

DR. TANNER, whose death in London on the 14th inst. was announced in our columns last week, at one time practised in Brighton and Hove, where his services were highly esteemed by an extensive circle of patients. He was, however, best known to the public as a prominent Freemason and an effective platform-speaker. Dr. Tanner was formerly one of the principal masonic officers in the province of Sussex, being Past M.W. Sovereign and Recorder of the Eureka Chapter, a member of the 31st degree, and a Past Master of the Yarborough Lodge. Although it is now about fifteen years since he left Brighton, he is still remembered in political circles there on account of the valuable support which he gave to Mr. James Ashbury, at one time the member for the borough. Dr. Tanner was sixty-five years of age at the time of his death. He graduated as M.D. in 1861, both at the Royal University of Ireland and at St. Andrews University. The funeral took place in Hove Cemetery, on Sept. 18th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men have been announced:—Dr. Welcker, who was for a great number of years Professor of Anatomy in the University of Halle, died last month at Winterstein. He was born in 1822 in Giessen, and studied in that university and in Bonn, taking his degree in 1851. It was not long before he began to give evidence of his ability by writing important papers on physical and physiological subjects, many of which were connected with optics. Subsequently he made some valuable researches on the blood, the anatomy of the ventricles of the brain, and the development of the skeleton. He did not entirely confine himself to medical science, for he found time to publish a work on German poetical dialects. His first chair was in Giessen, where he taught anatomy both as *privat-docent* and then as professor. In 1859 he accepted an invitation to teach anatomy in Halle, from which chair he only retired in 1894. In 1876 he was appointed to succeed Professor Volckmann as Director of the Halle Anatomical Institute.—Dr. R. Berlin, Professor of Ophthalmology in the University of Rostock.—Dr. Surmay, Corresponding Member of the Paris Academy of Medicine.

MILK ADULTERATION.—At the Bristol Police-court, on Sept. 9th, a tradesman was summoned for adulteration of milk. The case had been adjourned in order that a third sample of the milk might be submitted to Somerset House for analysis. The city analyst certified that one sample contained not less than 7 per cent. of added water and another not less than 5 per cent. The analysis from Somerset House showed that the sample had not less than 4 per cent. of added water. Another analyst stated that he had examined two samples submitted by the defendant, and found they contained 5 and 6 per cent. of added water; he had analysed milk taken direct from the cow in his presence and found that it contained 5 per cent. of "added" water according to the present standard. The magistrates said they thought the justice of the case would be met by the payment of costs, and they made an order accordingly.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT MONTREAL.

THE SECTIONS.

MEDICINE.

THURSDAY, SEPT. 2ND.

The Dietetic Treatment of Diabetes.

DR. ROBERT SAUNDBY (Birmingham) opened a discussion on this subject. When the diagnosis of diabetes mellitus has been established, he said, sometimes when only the presence of sugar in the urine has been detected, it is the very general practice to place the patient upon a so-called "diabetic diet"—that is to say, he is furnished with a list of permitted and forbidden articles of food and drink arranged upon the principle that all carbohydrates are injurious, and he is told that he must keep to this diet until the sugar has disappeared from his urine. But carbohydrate food is not the only source of sugar. In severe diabetes glycosuria continues, although much reduced in amount, when the patient is placed on a flesh diet, and this is explained by the discovery that a carbohydrate molecule is formed in the process of converting albumin into urea, in the proportion of forty-five parts per cent. This fact, duly appreciated, must convince every one of the futility of persisting in withholding carbohydrates in the hope of removing the glycosuria. If it is conceded that the disputed data of physiologists do not afford a sound basis for our treatment of diabetes, but that we must look to clinical results before we say that a means is good or bad, then the old routine method is doomed. Instead of ordering a stereotyped diet in every case we must try experimentally in each individual how much carbohydrate, or, rather, what combination of proteid, fat, and carbohydrate gives the best result. This was the method which the speaker would advocate, and it had been adopted solely upon the basis of clinical experience. The method, he said, does not involve a great sacrifice of time on the part of the medical man; in fact, all the most important observations can be made and a register kept by the patient himself. The only thing he cannot do is the analysis of the urine. The patient should once weekly get weighed, and collect and measure the whole of his urine for twenty-four hours; a specimen of the urine should be sent to the medical man, who should determine the total amount of sugar. Of these observations, the body weight is the most important, for if it continues to be stationary or tending upward we have the best proof that the diet is properly regulated, even though the sugar shows a moderate increase. In order to determine the diet most suitable to each patient we must proceed experimentally, and this is better done by gradually increasing the amounts of saccharine and starchy food. Many patients suffer from polyuria and great thirst, and these symptoms can best be checked by strict diet for a limited time, combined, if necessary, with the administration of a grain or two of extract of opium every night. Further, the result of strict diet affords valuable information for prognosis, as it is only in the milder cases that the sugar disappears under its influence. The patient should, if possible, make one meal—for example, breakfast—of fat bacon or eggs and bacon, with which he may eat cabbage and starchless, not gluten, bread or biscuits. He is, of course, allowed other green vegetables, any animal food, tea or coffee with cream, and, if he desires it, two or three ounces of sugar-free alcohol, with mineral water. When after a week of this diet the sugar is found to have disappeared entirely, or almost entirely, six ounces of baked potatoes and one and a half pints of milk, containing between them the equivalent of about 1100 grains of sugar, may be added. If this causes no glycosuria four and a half ounces of dry toast, of which about 800 grains are starch, may be given, as also a bottle of light wine containing very little sugar, such as ordinary Bordeaux or Moselle, or in some cases a pint of bitter Burton ale. If such a diet causes no return of symptoms the medical man may be satisfied and the patient is generally contented, and if sugar continues to be absent the quantity of toast or bread may be gradually increased to double the amount. Such cases are, however, exceptional. As a rule the sugar, though diminished, persists. In such a case we may give first the milk and then the potatoes, and if there is no return of distressing symptoms we should not retrace our steps because there is some moderate increase of sugar, but watch the body weight. If that shows no loss we may keep the patient on this diet for many weeks before venturing to make a trial of ordinary bread, and often the patient has to be content to do altogether without it. Dr. Saundby preferred to increase the potatoes, for he was of the belief that the starch of cereals is for some reason more productive of glycosuria than that of potatoes.

In the discussion which followed DR. COUPLAND said that each individual case should be dieted as the condition of the patient indicated, but that diet would often not have the desired effect.—DR. SHINGLETON SMITH (Bristol) urged that greater indulgence might be permitted in the use of carbohydrates.—DR. TYSON (Philadelphia) divided cases of diabetes into mild and severe, and considered that in mild cases the sugar could be eliminated by diet alone, while in the severe cases no diet seemed to be of use. Pure proteid diet he believed to be harmful because of its transformation into toxic substances, while, when the sugar could be kept under 2 per cent. by a limited use of carbohydrates it was advisable to do so, estimating the amount excreted every month.—Professor JACOBI (New York) and DR. STEPHEN MACKENZIE, the President of the Section, and others took part in the discussion, the general conclusion being that in the diet of the diabetic patient too strict a routine had been hitherto followed.

FRIDAY, SEPT. 3RD.

Cholelithiasis.

A discussion was opened by DR. WILLIAM HUNTER (London) on Cholelithiasis, its Causation, Symptomatology, Diagnosis, and Treatment. He said that the disease in question was eminently suitable for discussion, inasmuch as it was of frequent occurrence, obscure in its course, entailed much suffering and often death, was variable in its symptoms, and the diagnosis was frequently difficult and doubtful. He would deal especially with the chemical problems involved, and with the causation of the disease. Until lately there had been little advance upon the subject for 150 years, when Dr. Coe summarised the state of existing knowledge, attributing the disease chiefly to stagnation of bile, the result in many cases of tight-lacing or pregnancy. The disease was five times more frequent in women than in men. In the speaker's opinion it was a local disease of the bile-passages and gall-bladder, rather than a general constitutional disease. The pressure under which the secretion of bile took place was very low, hence its course was very dependent on extraneous conditions, such as the movements of the diaphragm. The flow of the bile was also dependent upon the walls of the hepatic duct and of the gall-bladder. Gall-stones consisted chiefly of cholesterin and of bile pigments associated with lime salts. Cholesterin was widely distributed throughout the tissues. It was found in the nerves, ovaries, blood, testis, yelk of egg, &c. There was no evidence that cholesterin was secreted by the hepatic cells; rather was it the product of degenerated cells. It was especially abundant in the secretions of mucous membranes. It was more abundant in the sputum of bronchitis and phthisis and in pus than it was in bile. The inflamed mucous membranes of the bile passages were the probable seat of the formation of the cholesterin in gall-stones. Bilirubin and calcium did not combine in the bile, but if egg albumen be added they were thrown down in combination. Hence free albumin was probably present in the bile passages as the result of catarrh. The conditions favouring the formation of gall-stones were essentially local, the result of catarrh. The causes of this catarrh were stagnation of bile, the result of sluggish habits, pregnancy, tight-lacing, &c. Stagnation of bile alone was not sufficient to cause cholelithiasis, inasmuch as it was not excited by the mere stagnation of bile, normal bile being quite aseptic; but stagnation of bile gave rise to infective processes, and the presence of the bacillus coli communis and the bacillus typhosus. These organisms were derived from the intestine. A second cause of gall-stones was inflammatory catarrh of the inter-hepatic bile ducts set up by irritant products in the bile the result of dietetic errors. Treatment should be directed to flushing the bile passages with water as much as possible. Carlsbad and Vichy salts were very useful, and salicylate of soda was known to

promote the flow of bile. No drug acted as a solvent of gall-stones when once formed.

Dr. GRAHAM (Toronto) continued the discussion. Biliary colic occurred in less than one-half of the cases of gall-stones. The seat of the pain was usually in the region of the gall-bladder, but might be in the shoulder or in the right inguinal region. The severity of the pain was not due so much to the size as to the shape of the gall-stone. Death had been known to occur during an attack of biliary colic. Biliary colic without jaundice might give rise to great difficulties in diagnosis. Elevation of temperature occurred and rigors, which were toxic in origin and did not indicate suppuration. Jaundice was absent in one-half of the cases of biliary colic. It might follow the attack of colic at a long interval. Bile pigment might be found in the urine, and its presence there might assist the diagnosis. Distension of the gall-bladder might take place from atony of its walls, when there was little or no obstruction. Calculi were often the cause of carcinoma. The duodenal end of the common duct was a frequent seat of carcinoma. Cholelithiasis was often associated with diabetes. Gall-stones might be a cause of intestinal obstruction.

Professor OSLER (Baltimore) thought that the association of typhoid fever and gall-stones was much more frequent than was usually supposed. There were four varieties of fever associated with gall-stones: 1. The fever associated with the chill. 2. The fever associated with cholecystitis. 3. "Hepatic intermittent fever." In these cases attacks resembling miliary intermittent fever occurred through weeks, months, or years. They were usually followed by slight jaundice. There was no fever in the intervals, the patient felt well, and the jaundice diminished. 4. Fever associated with suppurative processes.

Dr. HANDFORD (Nottingham) had not seen any clinical evidence to warrant the theory of a relation between typhoid fever and gall-stones. Gall-stones were not so very rare in the young.

Dr. MULLIN (Hamilton, Ontario) did not believe in the association of gall-stones and typhoid fever.

Dr. BAUMGARTEN (St. Louis) thought that in cases of associated gall-stones and carcinoma the latter was primary.

Dr. MACKINNON (Guelph) had lately seen two cases of gall-stones following typhoid fever.

Dr. PASTEUR (London) gave the history of a case illustrating the occasionally extreme difficulty of diagnosis in these cases.

Dr. ROGER (Denver) and Dr. ACHESON (Galt, Ontario) continued the discussion.

The PRESIDENT of the section summed up. He thought that now attention had been drawn to the subject the association of typhoid fever and gall-stones would be found more frequent than had been supposed. He agreed with Dr. Osler that he who knew the subject only from the medical side knew but half. He was inclined to think that obstruction was always at the bottom of biliary colic and that spasm would not account for it.

Dr. HUNTER having replied, the discussion came to a conclusion.

The proceedings terminated with a vote of thanks to the President of the section.

SURGERY.

THURSDAY, SEPT. 2ND.

The Operative Treatment of High Cancer of the Rectum.

A discussion took place upon this subject, which was opened by Dr. JAMES BELL (Montreal). After remarking on the frequency of the disease in this situation, and quoting Mr. Bland Sutton as authority for the statement that of every hundred cases of carcinoma of the intestine seventy-five occurred in the rectum he referred to the difficulty of early diagnosis owing to the indefinite nature of the early symptoms. Even when loss of blood occurred with irregularity of the bowels and flatulence the disease was often not suspected. It was only when symptoms of auto-intoxication, with sanious or mucous discharges from the bowel, occurred, that an examination of the rectum revealed the true condition of affairs. Operable cases were: (1) those in which there is a chance of removing the whole mass with permanent cure; and (2) those in which, though the mass is removable, the probability of recurrence is strong. In still another class, in which there is no hope of removal, inguinal colotomy should be done. The first grave symptom might be a general peritonitis due to rupture and escape of contents into the peritoneal cavity. After discussing various methods he recommended Kraske's operation by the sacral route. He preferred to make a preliminary inguinal colotomy to define the upper limit of the growth and to estimate the amount of glandular involvement, while free evacuation and cleansing of the bowel were thus made possible, and, should a permanent artificial opening become necessary, the inguinal opening was much better than the sacral one. The essentials to successful resection were a clean field of operation, free descent of the proximal end of the bowel without tension, and careful suturing. He thought that there was quite an unnecessary dread of bringing down the upper segment of the bowel for fear of sloughing. The danger was rather of pulling and stretching and otherwise depressing the blood supply. He thought it was unavoidable to open the peritoneum in high operations on the rectum, but said that this was not to be feared if the opening was afterwards closed with sutures and the site of the wound was properly dressed and drained. The operation was not without considerable danger, but the average rate of mortality after the operation was not greater than 20 per cent., and 10 or 12 per cent. of the patients remained well and without recurrence for four years.

Professor C. B. BALL, Regius Professor of Surgery in the University of Dublin, gave a lantern demonstration illustrating Trans-sacral Resection of the Rectum. He said that he did not perform an osteoplastic operation, but removed the lower segment of the sacrum entirely. He believed that the perineal route should be discarded, except, of course, in those cases in which the anus was involved. The best recoveries in these cases were those in which the tumours were freely moveable. As preliminary to the operation he usually gave purgatives for several days, together with rectal enemata, to insure thorough cleansing of the bowel. Then he used a 2 per cent. solution of creolin to wash out the bowel, and gave opium to prevent peristalsis. One danger that had been mentioned was that of sloughing. This could be avoided largely by care in manipulation. The parts should not be too tense and should not be pressed upon. He reported seventeen cases with sixteen recoveries from the preliminary operation. He thought that we should operate for present relief, even when the cancer was high up and the glands were involved. He preferred this operation to colotomy.

Dr. W. W. KEEN (Philadelphia) said that there was no doubt that Kraske's operation was of great importance and offered relief to many sufferers. Even when the glands were considerably involved he had found that patients improved very much. He did not think the osteoplastic method was at all necessary. It was his custom to remove the coccyx and the adjoining portion of the sacrum, but he differed from Professor Ball and agreed with Dr. Bell as to the advisability of doing a preliminary inguinal colotomy, whether temporary or permanent. But the two operations should never be done at one sitting, it being better to wait two or three weeks for the subsequent operation. Kraske's view was that a preliminary colotomy was to be done only in case the obstruction was so complete that this cleansing could not be effected without it, but Dr. Keen thought that the operation was necessary to unload and cleanse the bowel. He reported twenty-five cases. Of these, fifteen were sacral operations, and there were twelve recoveries, four of which had passed the four-year limit, which he considered to mark the chances of recurrence.

Dr. ASHHURST (Philadelphia) said he was never very enthusiastic about operation for the removal of cancer of the rectum, although his views had become somewhat modified since visiting Montreal. He thought that if the disease had gone on to obstruction it was better to make an artificial anus. He was in favour of doing the preliminary colotomy as a safeguard, for in some cases if resection was done without this preliminary step there occurred a low form of peritonitis, accompanied by vomiting, so that it was difficult to nourish the patient; whereas if there was an opening in the colon this could be used for the introduction of food and saline or other injections without interfering with the rectum itself. He mentioned a procedure of a palliative character which he had found very useful; that was a small longitudinal section of the rectum through the mass of disease in the median line posteriorly.

Gunshot Wound of the Spinal Cord.

Dr. GEORGE A. PETERS (Toronto) followed with a paper

on this subject. He stated that the causes of death in such cases were shock, hæmorrhage, and septic processes, while the factor which most largely determined the rate of mortality was the proximity of the cord lesion to the brain. Cases of this nature in civil practice were very infrequent. Although there had been cases in which, after complete transverse lesion of the cord at various levels, the individuals had survived for periods varying from one to twenty-six years, yet it might be stated as a rule to which the exceptions were few that patients with such lesions died within a year of the injury. The determining causes of death were inflammation of the bladder and its sequelæ, bed-sores and other trophic lesions, pyæmia, amyloid disease, and exhaustion. He recommended medium cystotomy as a routine practice in cases of this injury in male subjects, so as to imitate the short and straight urethra of the female, as the latter seemed to suffer less from bladder symptoms. Dr. Peters then referred to the difference between the deep or tendon reflexes which were permanently lost in complete transverse lesions of the cord, and the superficial or skin reflexes which, as in a case narrated by him, might not only return, but might even become exaggerated. He believed that in the case of the skin reflexes the reflex arc remained intact and the exaggeration was accounted for by the overflow of sensation into the motor regions in the cord, which were relieved of the natural inhibitory influence of the higher centres by the lesion; while in the case of the tendon reflex an influence was normally transmitted to the muscles to maintain their tone which was also interrupted by the lesion—hence the permanent loss.

FRIDAY, SEPT. 3RD.

A Case of Abdominal Tumour.

Dr. F. J. SHEPHERD (Montreal) opened the proceedings of the day by reading a paper on a Case of Abdominal Tumour, in which nearly 8 ft. of small intestine had been resected. He said that these cases were not uncommon, but the present case ranked second in the amount of intestine removed, the first being that of a Roman physician, who had removed about 11 ft. of intestine. The present case was that of a young man with an abdominal tumour filling up the whole cavity of the abdomen and adherent to about 3 ft. of the small intestine. A very long, vertical incision was made in the median line and the tumour was then found to be of the mesentery. The tumour, with the bowel to which it was attached, was then removed, and from the destruction of mesenteric vessels it was found necessary to make a still larger resection of small intestine. In all 8 ft. were removed, this bowel consisting of ileum. During the operation, which lasted one and a half hours, the patient became very weak, necessitating an intravenous saline injection. Nutritive enemata were given after operation for some days. On the sixth day the patient had a stool, and after this there was some tendency to diarrhœa. One month after operation the patient was well enough to go out driving, and five weeks after operation left the hospital cured, and has gained very much in weight since. Dr. Shepherd then read the results of resections in dogs by Dr. Senn. The tumour was examined microscopically by Dr. Wyatt Johnston and proved to be a fibro-myxoma. The tumour and the adherent bowel were exhibited, and the members had the pleasure of seeing the living patient, who was in apparently excellent health.

The Diagnosis and Treatment of Penetrating Wounds of the Abdominal Cavity.

Dr. TOBIAS NUNEZ (Mexico) then read a paper on this subject. Stress was laid by the speaker on the great difficulty in diagnosis in deep wounds. He touched upon the method of diagnosis by the use of hydrogen gas. Wounds caused by firearms were alluded to. The diagnosis could only be made by one of the complications—viz., hæmorrhage and septic peritonitis—when operative measures failed very frequently because of rapid progress of these complications. In treatment no food whatever was to be taken by the mouth; pounded ice might be taken from time to time. Opium, in his opinion, was the best drug to be used in these cases. Laparotomy he did not perform until diagnosis was sure.

The Surgery of the Gall-bladder and Bile-ducts.

Dr. ALEXANDER FERGUSON (Chicago) then read a paper embodying his personal observations on this subject. He based his remarks on the observation of 46 cases. The therapeutist, he said, was at sea, and the surgeon alone could deal with these cases. The more chronic the affection the more difficult was the means of affording relief, hence the advantage of early operative interference. He reported 3 cases of flexion of the gall-bladder relieved by operation and 4 cases of dropsy of the gall-bladder, one of which reached as far down as the brim of the pelvis, and one of which was operated upon under cocaine anæsthesia. It was interesting to note that it was only necessary to cocainise the skin and peritoneum. Cholecystotomy was performed in 37 cases with but 2 deaths. The perpendicular incision about the tenth rib was preferred. The bladder was opened, and if bile was present it was washed out, the bladder first being stitched to the peritoneal wall and upper angle of the wound. Patency of the common duct was proved by passing a small probe, and if this was impossible by the forced injection of sterile water. Dr. Ferguson had opened the common duct five times.

Stone in the Ureter and its Treatment.

Mr. JORDAN LLOYD (Birmingham) read a paper on this subject. Many operations, he said, were performed for stone in the kidney with failure to find the stone, the patient presenting the symptoms of renal calculus. These cases he thought were probably due to the stone being located in the ureter. He laid stress on the absence in renal calculus of severe tenderness on pressure in the loin over the kidney. The symptoms of ureteral calculus were like those of renal calculus, but there was less local pain. Situations of the stone were: between the pelvic brim and the bladder, at or near the wall of the bladder, and between the pelvic brim and pelvis of the kidney. The results of ureteral occlusion were: (1) atrophy of the kidney; (2) dilatation of the ureter; and (3) pyelitis. These inflammatory conditions generally preceded the passing of an instrument. The stone might be present in the ureter for many years. The hæmaturia was greater in ureteral than in renal calculus. The symptoms of water-logging of the kidney, which Mr. Lloyd grouped as urine toxæmia, were accompanied by extreme distress, little pyrexia, and always by abdominal distension. These toxins weakened the heart and increased the rapidity of the pulse. The distension of the bowels was probably due to some paretic effect due to the toxins. Stress was laid on digital rectal examination, which could detect a stone even high up in the ureter. Treatment depended on its position. If near the bladder the best method was by suprapubic cystotomy; if higher by abdominal section, pushing up the peritoneum and opening the ureter posteriorly and extra-peritoneally. In this operation the ureter was not sutured, as no urine was found to come through the wound. The operation was similar to that for ligature of the common iliac artery. If the stone was situated higher the lumbar operation could be done. A drainage-tube was used in the last two. Two specimens of ureteral calculi were exhibited which Mr. Lloyd had removed.

Dr. KEEN (Philadelphia) cited a case where he had mistaken a case of ureteral calculus for appendicitis. The cause of trouble was not found at the operation, but only some months later, when the patient was operated on and a calculus removed from the bladder. His views coincided with those of Mr. Lloyd. He recommended washing out the bladder with Bigelow's catheter after every attack of renal colic. Dr. Keen also emphasised the value of thorough digital rectal examination.

Dr. SHEPHERD asked why Mr. Lloyd had used the drainage tube if no urine escaped through the wound and what was the reason of there being no escape.

The President of the section, Mr. CHRISTOPHER HEATH, cited a case which was mistaken for an ovarian disease. It was better, he thought, to open the bladder and proceed from this in the operation.

Mr. LLOYD, in reply to Dr. Shepherd's question, said that the reason for the non-escape of urine was probably due to the blood, &c., acting as a seal to the wound, and the passage through the ureter being free for urine to escape into the bladder. The tube, he said, was only placed about an inch from the ureteral opening and was used in case there should be any escape of urine.

Papers were also read in this section by Dr. LAPTHORN SMITH (Montreal) on Appendicitis, and Dr. A. B. ATHERTON (Fredericton) on a Case of Intestinal Obstruction.

The proceedings terminated with a vote of thanks to the President of the section.

PUBLIC MEDICINE.

THURSDAY, SEPT. 2ND.

Small-pox in Montreal.

The business of the section commenced by a warning of the President, Dr. E. P. LACHAPELLE, against attaching unnecessary importance to the newspaper reports of an outbreak of small-pox in the city. In Montreal since the outbreak on July 2nd there had been 13 cases. 5 of which had died, leaving 8 patients sick. They were all in the small-pox hospital, and there was not a single case known in the city outside the hospital. In Westmount, a town adjacent to Montreal, there were only 5 cases, all in the same family except one, an official, who caught the disease while having the house disinfected. There were now in Westmount 4 patients and 8 in Montreal, making 12 in all. There was 1 other case in St. Cunegonde, another suburb of Montreal.

The Utility of Quarantine.

An important discussion on this subject was opened by Dr. F. MONTIZAMBERT (Quebec), general superintendent of the Canadian Quarantine Service. He reviewed the Canadian system, and pointed out that owing to the different conditions prevailing it differed from the British system in several respects. Canada, for example, accepted fully the conclusions of the Dresden Sanitary Convention without the reservation made by Great Britain that healthy persons landing from infected ships should not be detained. In Canada, also, disinfection of the mails was occasionally considered advisable, especially when arriving from China.

Dr. WYMAN, supervising surgeon-general of the United States Quarantine Service, described the system in force in the United States.

Dr. J. A. DUNCAN, secretary of the Provincial Board of Health of British Columbia, read a paper on the Value of Quarantine on the Pacific Coast, in which he recommended that Chinese emigrants and their baggage should be disinfected and kept in quarantine one fortnight before coming on board any ship at any Chinese port.

Dr. MONCKTON COPEMAN, of the Local Government Board, London, described the survey of the English coast made by the Board some three or four years ago when quarantine was abandoned in England.

On the Duration of the Period of Infectiousness in Scarlet Fever.

Dr. JAMES T. NEECH (Atherton), physician to the Leigh Joint Fever Hospital, then read a paper upon the Infectiousness of Scarlet Fever. "The period," he said, "when a convalescent from scarlet fever ceases to be infective and becomes safe for discharge must at times be a source of anxiety to every physician who has charge of a fever hospital, and it appears to me that this uncertainty is likely to continue more or less until the specific microbe of the disease has been definitely isolated, its life-history studied, and the extreme limit of its retention within the human body experimentally proved; not till then and not till we have at our disposal reliable methods for detecting the microbe shall we be enabled to pronounce with certainty that a given patient is free from infection and incapable of conveying the disease. Until we arrive at exact methods we must be guided in dismissing patients from hospital by the result of close observation, accurate records, and carefully prepared statistics in connexion with the cases while in hospital, and the relation which their discharge therefrom bears to the occurrence of fresh cases in the district to which they belong. By this means it would be possible in time, I think, to acquire fairly accurate information with regard to the probable period during which a case of scarlet fever continues to be infectious. That the period of infectiousness varies in different cases is true, and doubtless the severer the fever the longer is the case likely to continue infectious. Hitherto the generally recognised period during which isolation should be maintained in mild and ordinary cases is six weeks provided desquamation is complete. In my opinion that period is too short even in the milder cases, and although I admit that the desquamating cuticle is infectious I am not certain that the completion of desquamation is a safe and reliable guide as to when a given patient ceases to be infective even in cases where no complication arises. That a purulent discharge from the nose, ear, or running sore, the usual sequelæ and complications which necessitate a prolonged period of isolation, is infectious has been proved beyond a doubt. But what is the source of the specific poison in these discharges? Do these discharging surfaces afford conditions in which the specific microbe can increase and multiply? The discharge itself comes from the blood-vessels, and if the blood has been rendered immune to the disease, are not these discharges in consequence inimical to the growth of the microbe? In my opinion the source of the specific poison is not the mucous membrane of the nose, or ear, or the surface of the sore, but the blood-stream, that the mere existence of such discharging surfaces are not in themselves capable of prolonging the period of infectiousness, and that they only serve as exits by means of which a portion of the virus finds its way out of the circulation and the body. It has not yet been shown that the cessation of the period of infectiousness and the healing of a discharging surface are coincident, and I do not think that such is always the case. Sometimes possibly the healing precedes, while at others I feel sure that infection ceases before healing takes place. A discharge sometimes continues through a very protracted period, but it is obvious that infective material cannot be retained within the body indefinitely, and although the period of infectivity may vary in different cases, is there not a time limit to the retention of the virus in the body beyond which no complication whatever can prolong the period of infectiousness? In cases of infectious disease where the fluids of the body are more or less laden with specific poison a certain time must elapse, under the most favourable circumstances, before the poison can be completely eliminated, and in scarlet fever it appears that conditions exist in certain cases which considerably prolong the period of complete elimination. In this respect scarlet fever seems to differ somewhat from other fevers, consequently the idea suggested itself that a storing up of infective material takes place somewhere in the body, and this, perhaps, in the condition of spores. I have noticed in scarlet fever that not only the glands of the neck, but also the lymphatic glands in the axilla, groin, and other parts become enlarged during the earlier stages of the disease, and that this enlargement is more marked and general in the severer forms of the disease. Therefore I incline to the opinion that the poison accumulates in these glands, causing irritation and enlargement. As the irritation ceases and the enlargement becomes absorbed the virus passes again into the blood-stream, and is eliminated during convalescence by the different emunctory organs. In typhoid fever great care is bestowed upon the disinfection of the discharges from the bowels and kidneys, and especially the former, but in scarlet fever little attention is usually paid to these excretions. When the fluids of the body contain a specific poison, is it not capable of being discharged therefrom by every organ the function of which it is to separate effete materials from the blood-stream? I think the desquamating cuticle, especially in the later stages, owes its infectiousness very much to the excretion of the glands of the skin. With a view of obtaining information as to the usual length of hospital isolation in this disease I issued a circular to a number of fever hospitals situated in different parts of England asking for the minimum, maximum, and average period of isolation that obtained in each place during the two previous years, and also the number of return cases which occurred within seven days of the discharge from hospital. From the replies received I find the minimum period varied between four and eight weeks, while the maximum in some cases extended to six months. The average period, the most useful for the purpose of comparison, varied between thirty-nine and sixty-five days. In many hospitals information regarding the number of return cases did not appear to be available, but I have been enabled to secure pretty accurate records of some 15,000 cases, and find that where the average period of isolation was forty-nine days and under the return cases averaged 1·86 per cent., where the average period of isolation varied between fifty and fifty-six days the average percentage of return cases was 1·12, and where isolation extended to between fifty-seven and sixty-five days the average percentage was 1·0. Although I would not like to lay too much stress upon these figures, yet they seem to point to the conclusion that the average period of retention in hospital bears a relation to the number of return cases of the disease. The question of return cases of scarlet fever is an important and very difficult one. Of course, a patient might become infected in the ordinary way, or might contract the disease from some source with which we are ill acquainted, and in each case this might be coincident with the return from hospital. The stowing

away of infected articles belonging to a patient has been shown to be a cause of return cases, but with improved apparatus and more perfect and thorough methods of disinfection this probably does not play so important a part in the matter as formerly. Allowing that a certain number of return cases contract the disease from other sources, yet there is little doubt but that discharged patients are the direct vehicles of infection in a certain percentage of cases. Several eminent authorities are of opinion that patients through breathing the actively infected air of a hospital during convalescence store up infective material in the cavities of the nose and lungs, and by that means convey the poison outside the institution. This may possibly occur; but were it the chief cause, would not the number of return cases be even greater than it is? Moreover, it appears to me in that case the percentage would not be affected by prolonged hospital isolation in the way the figures quoted seem to show. The lymphatic glands I think store up infective material. This has been previously referred to, and should any enlargement be found when a patient is examined for discharge it is now my practice to prolong the stay in hospital in consequence thereof. Systematic disinfection of the nasal cavities before discharge has been advocated, which no doubt is a useful and necessary procedure, also a convalescent ward in which patients may be prepared for a week before dismissal. I think there should be two such wards in connexion with large hospitals so that they can be used a week each alternately, and disinfected when not in use. This would ensure for the patient a purer atmosphere, which would greatly aid in freeing him from infection. In view of the facts referred to it is doubtful whether a minimum period of retention in hospital of less than eight weeks is sufficient, as I think it safer to increase and maintain the average rather by extending the minimum than by prolonging the maximum period of isolation. With regard to the maximum period I find that several authorities consider thirteen weeks' hospital isolation sufficient even in cases where complications supervene, and irrespective of the healing of discharging surfaces. I incline to agree with this, and think that a minimum of eight with a maximum of thirteen weeks may be considered safe until the contrary be shown, by the result of accurate records based upon careful observation, or they be proved to be incorrect or inadequate by exact bacteriological methods."

The proceedings terminated with a vote of thanks to the President of the section.

OBSTETRICS AND GYNÆCOLOGY.

FRIDAY, SEPT. 3RD.

Two Cases in which Porro's Operation was Performed.

Mr. MAYO ROBSON (Leeds), President of the British Gynæcological Society, read a paper on Two Cases in which he had performed Porro's Operation for Impacted Pelvic Tumours preventing Delivery. In both cases the mother and child were saved and are now well. The first case was one of pregnancy at term, with the pelvis completely blocked by a suppurating ovarian cyst, complicated with a large septic abscess bounded by uterus, ovarian cyst, and intestines. The second case was for pregnancy at term associated with myoma of the posterior and inferior segment of the uterus completely blocking the pelvis. The case had been recently seen, and the remains of the pelvic tumour had completely disappeared. In relating the cases in detail Mr. Robson remarked that where from any cause delivery cannot take place naturally, there are no less than six operations which may be performed to save both mother and child: (1) symphysiotomy, (2) ischio-pubiotomy, (3) complete hysterectomy, (4) laparo-elytrotomy, (5) Cæsarean section, and (6) Porro's operation. In the cases related, where the pelvis was completely blocked by tumours, the two former methods were inapplicable. Total hysterectomy during advanced pregnancy would probably only be resorted to in case of cancer of the uterus on account of the longer time occupied in the technique. Laparo-elytrotomy would have been unsuitable in either, as in one the lower segment of the uterus was involved in the tumour, and in the other the tumour could not have been dealt with had that operation been done. The only methods available, therefore, were Cæsarean section and Porro's operation. Cæsarean section is the operation *par excellence* for obstructed labour depending on pelvic deformity, but in these cases it was out of the question, as in the first instance the tumour so completely blocked the pelvis that drainage of the uterine cavity could not have been effected, and in the second, had the uterus been left, septic trouble must have followed, as the posterior wall of the womb was actually forming the anterior boundary of the abscess sac, and was itself thoroughly involved in the septic process. Porro's operation was, therefore, the only procedure left, and it answered so well that had he other similar cases he would not hesitate to employ it. Moreover, he remarked, it must be borne in mind that Porro's operation can be very rapidly performed and requires only a small armamentarium—important factors in cases of urgency and in emergencies at a distance from a surgical centre.

Spurious Abortion.

Dr. T. W. EDEN (London) then read (by proxy) a paper in which he gave an account of Three Cases of Spurious Abortion. It was an account of a class of cases in which a mimicry of early pregnancy and of abortion occurred, quite different in its characters from the condition known as spurious pregnancy. They were not associated with hysteria and the usual functional disturbances of pregnancy were not exaggerated. They differed from pseudocyesis in the existence of definite changes in the uterus and from pregnancy, either topic or ectopic, in the essential point of the absence of an ovum, either within or without the uterus. They mimicked abortion in the occurrence of a period of amenorrhœa with enlargement of the uterus, and the formation within it of a body, the detachment and expulsion of which was followed by a return to menstrual regularity and the former condition of general health. The body expelled was not an ovum, but was formed entirely from maternal structures. He would describe its exact nature later. A case of this kind had come under Dr. Eden's notice and was communicated to the Obstetrical Society of London. Two other cases had been recorded in the Transactions of the same society, making three in all; but a careful search had failed to show that any such cases had been recorded elsewhere. By the kindness of the reporters of the first two cases (Dr. Griffiths and Dr. Dakin) he had been allowed to re-examine their specimens. A short account was then given of each of these specimens and of Dr. Eden's. In each case there was the same clinical picture of amenorrhœa and morning sickness, terminating after eleven weeks in hæmorrhage and the discharge from the uterus of a fleshy mass, which was at first sight regarded by an experienced obstetric physician as an abortion. Dr. Eden then described the microscopic appearance of the casts, which presented certain points of resemblance to the decidua of pregnancy, with certain well-marked points of difference; in all of them the microscope alone did not suffice to distinguish these casts from those often met with in extra-uterine pregnancy. He would formulate the definition of the condition for which the term "spurious abortion" was suggested as follows: It was "the development within the uterus, in the absence of uterine or extra-uterine gestation, of a membrane having the essential characters of the decidua of pregnancy and accompanied by the signs of early pregnancy; and its separation and expulsion from the uterus with hæmorrhage, thus simulating abortion." Diagnosis was impossible until after the discharge of the cast; it then consisted of two distinct steps—(1) the exclusion of uterine pregnancy by careful microscopic examination of the cast, which demonstrated the absence of chorionic tissues; and (2) the exclusion of extra-uterine pregnancy. In two of the three cases this was possible by direct inspection of the tubes and ovaries, as in each case abdominal section was performed under the impression that the case was one of extra-uterine gestation. Two explanations of the condition were possible: (1) that an ovum was actually fertilised, but perished at a very early period without leaving traces of its presence, while the "genetic reaction" in the uterus and in the general organism progressed as in pregnancy; and (2) that some stimulus other than the presence of a fertilised ovum in the genital tract might lead to the formation within the uterus of a complete decidua, and might hold the menstrual functions in abeyance. Provisionally he adopted the first explanation.

The proceedings terminated with a vote of thanks to the President of the Section.

PHARMACOLOGY AND THERAPEUTICS.

THURSDAY, SEPT. 2ND.

The Treatment of Syphilis.

This section met jointly with the section of Dermatology to discuss the subject of the Treatment of Syphilis. The subject was introduced by Dr. WHITLA (Belfast), who said that two drugs alone need be considered—mercury and the iodides. He regarded it as proved that mercury had a specific or curative effect on syphilis, and thought it best to limit his attention to the following points: (1) how mercury and the iodides were supposed to act; (2) when should mercurial treatment be started; especially should it be given in the primary stage; (3) the various methods for its routine administration, its dosage, and the length of time necessary for mercurial treatment; and (4) the treatment of tertiary symptoms and congenital syphilis. The pharmacology of mercury—the mode of absorption, especially when administered by inunction, elimination, &c.—was considered. Mercury he regarded as a vital antidote to the syphilitic poison, and so long as the virus of syphilis remained in the organism mercury, he believed, would expend its force upon it without injury to the patient. This, he thought, gave a working hypothesis as regards dosage. The question of the bactericidal power of iodides in connexion with Binz's view was dealt with, and their inutility in the first and early second stages emphasised. The continuous and interrupted methods of administering mercury were treated at length, although it was stated that these could not be rigidly separated. The continuous method was favoured by the speaker. He prescribed small doses as early as possible. Routine treatment was deprecated. As a guide determining the effect of the mercury the weight-chart was strongly recommended. Of the various modes of administration the method of inunction was most generally useful, although this posessed many disadvantages. Under ordinary circumstances small doses of mercurous iodides, Plummer's pill, &c., were sufficient. In the tertiary stage Dr. Whitla advised pushing the iodides until the symptoms abated.

Dr. NEVINS HYDE (Chicago) laid particular stress on the constitution of the individual. He believed that there were mild cases needing little or no treatment, and severe cases (mainly inherited) which seemed insusceptible to all treatment. Between these was the mass of cases giving the most satisfactory results. The best effects were obtained where iodides were not used; they were the remedies for the complications.

Mr. MALCOLM MORRIS (London) divided syphilitics into those who took alcohol and those who did not. He had not seen good results from intra-muscular injections. The mercurial air bath in certain conditions (extensive ulcerations) was strongly to be recommended, and to this treatment inunction and warm baths, especially those of a stimulating character, were useful adjuncts. The combination of ammonia and sarsaparilla with iodides was beneficial.

Dr. HERVIEUX (Montreal) spoke of the necessity of definite pathology, a view not shared by some subsequent speakers.—Intra-muscular injections of soluble mercurial preparations were praised by Dr. ALLAN (New York), who also spoke of the virulence of secondary symptoms following extra-genital chancres.

Dr. BULKLEY (New York) thought large doses of iodides unnecessary in the third stage if these drugs were combined with a small amount of mercury.—The President (Dr. LEECH) then closed the discussion by referring to the inutility of other drugs than mercury and iodine, and he agreed with Dr. Whitla in believing it often necessary to push iodides in the third stage of this disease. Combination of the iodides with ammonia was useful.—Dr. WHITLA, in reply, said that the whole secret of success in the treatment of syphilis was to get as much mercury into the system as possible without producing ill-effects. He had not seen one case of harm resulting from the use of mercury in syphilis in his own practice. He criticised Dr. Allan's theory of the virulence of secondary symptoms in cases of extra-genital chancre (the absence of lymph glands in the neighbourhood), and the discussion closed.

FRIDAY, SEPT. 3RD.

The Action of Diuretics.

Dr. JAMES BARR (Liverpool) opened the discussion on this subject. In practice we seek to increase the output of water, hoping that the salines would thus be eliminated also. The theories of renal excretion were considered. The late Sir B. W. Richardson has shown that even enormous pressure is alone insufficient to obtain the water from muscle cells. On the addition of sodium chloride, however, the dry muscle is easily obtained. Dr. Barr considered the question of (1) pressure; (2) volume of fluid; and (3) saline matter in fluid as factors in diuresis. In practice he thought an increase of the quantity of water drunk the chief benefit of watering-places.

Dr. C. R MARSHALL (Ferndale) went over the theories of renal secretion, using charts to illustrate his remarks. He considered that with physical principles we must also allow the kidney metabolic action. It is as yet unknown how micro-organisms get through a healthy kidney. Secretory nerves, though probable, are not demonstrable in the kidney. In the investigation of diuretics the mistake is often made of assuming an increased flow by reason of a temporary hastening of micturition without increasing the total urine of twenty-four hours. A German writer calls the agents thus acting tachydiuretics. In the classification of diuretics the digitalis group is the only centrally acting one.

Dr. SHINGLETON SMITH (Bristol) said we must take a broader view of dropsies and seek out the numerous factors in the case. Digitalis is the only diuretic all would agree upon. He thought well of apocynum cannabinum.

Dr. D. J. LEECH pointed out the fact that spontaneous diuresis frequently occurred—a fact which helped to give a reputation to many popular remedies.

Dr. A. A. WOODHALL (Denver) read a note on the action of apocynum cannabinum, a milk-weed growing wild in Canada and the States. The tough, fibrous bark is the part used. Its old reputation in dropsies led to name vegetable trocar. He (Dr. Woodhall) was satisfied that it was an efficacious direct renal stimulant and would advise a trial of it.

Dr. A. D. BLACKADER (Montreal) had had experience of the drug in ethereal tincture, and would publish the cases from the Royal Victoria Hospital. Apocynin and apocynein had different actions. The former is an excellent succedaneum of digitalis, the other is an irritant.

Diphtheria Antitoxin.

Dr. H. A. MACCALLUM (London, Ontario) presented a paper relating the results of the use of Behring's serum in cases not diphtheritic. Cases of tuberculosis, sciatica, sarcoma, lupus, and Hodgkin's disease were treated daily for several weeks. The serum he considered as a lymphagogue. Some benefit was claimed in the tuberculous cases, and marked benefit in lupus. In typhoid fever the temperature is first raised, and then lowered. The principal efficacy of serum is that it procures sleep.

Dr. A. T. BAZIN (Montreal) read a paper on the Preparation and Application of Diphtheria Antitoxin, relating his experience in the Montreal Infectious Diseases Hospital. The persons who have been in the vicinity of a case of disease may be immunised by injections, and thus protected by a sort of vaccination.

Dr. J. B. FRASER (Toronto) gave statistics of fatal diphtheria in Toronto: 1894, 9·6 per cent.; 1895, 15 per cent.; 1896, 14 per cent.; 976 cases, average 13 per cent. The feeling was against serum.

Dr. D. J. LEECH had known of collapse after serum, Turbidity of serum is not necessarily decomposition; a little water makes it cloudy.

Dr. BAZIN said that the fluorescent appearance of serum might be mistaken for turbidity; tricresol is the usual preservative for serum.

Dr. M. CHISHOLM (Halifax) read a paper on the Opposite Action of Drugs in Large and Small Doses.

The proceedings terminated with a vote of thanks to the President of the Section.

PATHOLOGY AND BACTERIOLOGY.

THUESDAY, SEPT. 2ND.

Serum Diagnosis and the Agglutinating Action of the Serums.

Professor ADAMI (Montreal) introduced a discussion upon this subject. He referred to the work done by Wyatt Johnston, Welch, Gruber, and Widal, and pointed out that Metchnikoff had experimented on the subject earlier, but

that to Widal was due our knowledge of the clinical value of the phenomenon.

Professor MUSSER related his clinical experience of the test, and said that the reaction had been obtained on the seventh day; blood from a case occurring ten years previously had given the reaction; cold baths had not influenced the test.

Professor BOYCE (Liverpool) stated that in Liverpool the distinction between typhus fever and typhoid fever had been made by the serum method. He preferred using fluid serum rather than dried blood.

Professor THOMPSON (New York) summarised clinical experience in five of the largest New York hospitals. He stated that the reaction had been seen on the fourth day of typhoid fever. Attempts to distinguish between typhus fever and typhoid fever by this method had failed; of cases of typhoid fever 75 per cent. were readily diagnosed without this test, 23 per cent. of cases could not be certainly diagnosed by serum methods, and misleading results had been obtained; he therefore claimed that at present this test, like the diazo reaction, was not of great clinical value.

Dr. WYATT JOHNSTON (Montreal), Dr. A. S GRÜNBAUM (Liverpool), Dr. CABOT (Boston), Professor WESTBROOK (Minneapolis), and others took part in the discussion, which was equally keen on the technique of the method and on its clinical importance.

FRIDAY, SEPT. 3RD.

Infective Swine Diseases.

Dr. V. A. MOORE (Ithaca) made some remarks upon the Nature and Differentiation of the Infective Swine Diseases in the United States. He referred principally to hog cholera and swine plague. There was great difficulty in the nomenclature, but the term "Schweinseuche" seemed to relate to what he understood as "hog cholera." In typical cases there could be no difficulty in differentiating between hog cholera and swine plague. In the United States, where hog cholera was frequently observed, swine plague was rare. He also pointed out the differences in the bacilli of the two affections.

Professor WELCH observed that there was no class of diseases in which there was so much confusion. Metchnikoff's bacillus was not the bacillus of hog cholera, which belonged to the colon-typhoid group, while the bacillus of swine plague belonged to the hæmorrhagic septicæmia type. The American "hog cholera" was identical with the English "swine fever." He concurred in the view that the German "Schweinseuche" is probably the same as swine plague, and pointed out that while the Germans have epizootics of this disease in the United States it is rarer.

Professor ADAMI confessed to having felt some confusion with regard to this subject as he had found in hog cholera bacterial forms with only few flagella, thus differing somewhat from true bacillus of hog cholera. But in view of the statement that animals rendered immune to hog cholera were still susceptible to swine plague he thought that he must regard them as two distinct diseases.

Professor ADAMI then read a paper on

Pictou Cattle Disease.

This was a disease, he said, which had been known for a great number of years and which was found only in a small locality in the neighbourhood of Pictou, Nova Scotia. This disease was characterised by some swelling of the abdomen, slowness in eating or rumination, followed by a paretic condition of the hind legs. The cattle soon lay down and death followed in a few hours. It was noticed to exist only in certain farms and spread to adjacent holdings very slowly. Those regions where the carcases had been buried seemed to be the most likely to contain the contagion. Locally the farmers considered the disease to be due to the cattle eating a plant which was very common in the district and known vulgarly as "stinking willie." There were abundant facts to prove that this was not the case, but he thought that as the stems were very hard the injury to the intestine might result from eating them and so the animal be predisposed to the infection. Post mortem the disease was characterised by very slight alteration of the intestine, with hyperplasia of the abdominal lymph glands, and a cirrhotic condition of the liver. The abdomen regularly contained from two to three pints of clear serum. These conditions had been present in twenty cases which he had studied, with the exception of one doubtful one. All of his cases were advanced, but Dr. W. Johnston had obtained cases at an earlier period, and then there was distinct enlargement of the livers. Dr. Adami had been enabled to isolate the bacillus, which was very small and grew on all media. In inoculation experiments he had been unable quite to reproduce the picture of the cattle disease as the animals died in the early stage before the typical cirrhosis had had time to appear.

Dr. D. MCEACHRAN (Montreal) said that the disease had been known for forty years. The virulence of the infective agency was difficult to estimate, but the disease did not spread rapidly out of the district. Where cattle had been removed from the infected districts and isolated only 1 in 200 was found to develop the disease.

Professor BOYCE asked if the organism was related to the colon group.

Professor ADAMI, in reply, said that it resembled the colon group, but presented minor differences. It fermented glucose, but not other fermentable substances. It was smaller than the bacillus of swine plague and was not vacuolated.

Dr. W. T. CONNELL (Toronto) showed for Dr. KANTHACK and himself specimens of the Tetanus Bacillus stained by the nitrate of silver method to show the flagella. In the early stage the bacillus presented from twenty to thirty very fine and tortuous flagella. In a later stage large thick flagella were developed which might be secondary. Later a single flagellum only remained of a corkscrew shape. When spores began to form the flagella became detached. In the terminal drumstick form they had been enabled to detect in the capsule the remains of the original flagella.

Dr. A. S. GRÜNBAUM showed some Micro-photographs of a case of Pseudo-hypertrophic Muscular Paralysis, in which there was a degeneration of the peripheral nerves in addition to changes in the muscle fibres themselves and thickening of the vascular walls.

Dr. HAMILTON K. WRIGHT (Montreal) read a pape entitled: On the Topography of the Posterior Columns. He reported in detail the anatomical lesions which were found in a very interesting case of tabes dorsalis, with some indications of a terminal acute myelitis.

Tubercle Bacillus in Milk.

Dr. R. BOYCE, Holt Professor of Pathology in University College, Liverpool, then read a paper on the Tubercle Bacillus in Milk, introducing a discussion on the communicability of tuberculosis from lower animals to man. He had, he said, examined 111 samples of dairy milk as supplied to Liverpool. He had found, like others, that the first milk from the cow contained most of the micro-organisms. In only from 5 to 6 per cent. of cases had the colon bacillus been found, and this in small quantity. He had found tubercle bacilli in only four cases out of his 111. Could organisms which had gained an entrance into an animal pass through the mammary gland and appear in the milk without affecting the udder?

Dr. ERNST (Boston) emphasised the necessity of a careful microscopical examination of the udder for tuberculosis, for in one case diagnosed as interstitial mastitis miliary tubercles had been found. A complete examination, however, was by no means easy.

Dr. ABBOTT (Philadelphia) stated that in his inoculations of cattle with diphtheria bacillus he had not been able to find them in the milk, his results being in direct antagonism to those of Professor Klein in England.

Dr. D. MCEACHRAN stated that in every case where the udder was tuberculous the milk was infective.

Professor WELCH stated that one observer who had made a very careful and complete microscopical examination of udders found that in nearly all cases where the bacilli were found in the milk there was miliary tuberculosis in the udders. He also stated that in human milk he had constantly found the staphylococcus pyogenes aureus, or, perhaps better, the staphylococcus epidermidis albus as he preferred to call it, and regarded it as a normal inhabitant of the larger milk ducts in the nipple. So that observations of bacteria being excreted through the milk should be regarded with great care when this coccus was present. He considered it a very peculiar circumstance that when so many acid-forming germs were constantly present in the ducts the milk in the nipple did not coagulate.

Dr. PARK (New York) had found in sucklings a few hours old the staphylococcus albus in pure cultures taken from the oral mucous membrane.

Dr. W. T. CONNELL (Kingston, Ontario), the secretary of the section, also spoke.

Professor WELCH (Baltimore) then read a paper on

The Distribution and Pathogenic Effects of the Bacillus Aerogenes Capsulatus.

He described the original case in which Nuttall and himself had found this bacillus at a necropsy on a case of aortic aneurysm. It was found in pure culture, and there existed emphysema of the subcutaneous structures. The blood vessels and the heart contained abundant gas-bubbles. There was also gas in the pericardium and the peritoneum. The organs all presented the appearance called by the Germans "Schaumorgane." Smear preparations revealed a single species of bacillus, and under anaerobic conditions he got numerous colonies of the same bacillus. It was non-motile, about the size of the anthrax bacillus, anaerobic, positive to Gram, and produced gas on fermentable material. Capsules could be demonstrated. It had first been thought that it was non-sporogenic, but Dunham, of New York, had recently found spores in cultures on blood serum. The pigeon was the most susceptible animal, and inoculations produced extensive necrosis and bloody œdema of the part. By comparing his cultures with those of E. Fraenkel of a bacillus found in gaseous phlegmons the identity of the bacillus aerogenes with the bacillus œdematis phlegmonosæ of Fraenkel had been established. Since then he had studied 41 cases—11 gaseous phlegmon, 1 pneumoperitonitis, 4 puerperal, 4 gas-cysts, 2 invasion from lung, and 10 others probably cadaveric in origin.

Dr. A. G. NICHOLLS (Montreal) stated that he thought the subject had not attracted the attention in Europe that it had deserved. He stated that he had seen in Vienna cultivations of the bacillus aerogenes which had been found in so called cases of *gangrène foudroyante*. He thought that many cases of gaseous phlegmon, physometra, and similar conditions should be referred to the action of this bacillus. Some observers had thought that the condition of "Schaumorgane" might be caused by the colon bacillus, but he thought that the etiological relationship of Welch and Nuttall's bacillus to the condition was established beyond a doubt. In the cases he had examined the bacillus coli had been conspicuous by its absence. In view of recent investigations by Chvostek and Morisani we should receive such cases with some reserve until further investigations should be made. He also touched on the subject of mixed infections in these cases

Contagious Pleuro-pneumonia in Cattle.

A discussion on this subject was then opened by Professor ADAMI. In this disease he said the danger lay in the insidious nature of its onset. The course, too, might last from 14 days to several months and the convalescence was often tardy. He referred to the long dispute which had taken place between the veterinary authorities of Great Britain and those of Canada. The Canadians were positive that not one case of true pleuro-pneumonia existed in Canada, but in spite of their representations and protests the Canadian cattle had been scheduled entailing a great loss on the country. On the other hand, it was proved that England had been a centre of infection to the colonies, and the arbitrary action of the Board of Agriculture was not calculated to advance those sentiments of brotherhood and union which so recently formed the basis of many eloquent speeches. It was absurd to doubt the veracity of the Canadian blue-books, for were they falsified the first effects would have been felt in Canada and not in England, and the matter could not have been kept secret.

Professor WELCH agreed with Professor Adami that contagious pleuro-pneumonia did not exist either in Canada or the United States. The gross anatomical appearances of the lungs of typical cases were striking. On the interlobular exudata comparatively few cells are to be seen. Outside this is a zone of disorganised chromatin; outside this, again, granulation tissue. These appearances are seen wherever there are connective tissue and lymphatics.

Dr. MCEACHRAN stated that in Canada to every locality whence the cattle condemned in England had been taken Canadian experts had been sent and failed to find even suspicious cases. He had the authority of the Minister of Agriculture to say that the offer of the Canadian Government to pay the expenses of three experts chosen by England to investigate the subject properly still held good.

The business of the Section was brought to a close by a unanimous vote of thanks to the President.

PSYCHOLOGY.

FRIDAY, SEPT. 3RD.

This section began its work on Friday morning with a thoughtful paper by Dr. T. D. CROTHERS (Hartford, Conn.), on

Some New Phases of Inebriety in Clinical Studies.

He pointed out that from 60 to 70 per cent. of all inebriates were of hereditary origin, their ancestors having been usually of the neurotic type. The abuse of alcohol was often only a symptom of degeneration, so that by removing the spirits we did not always remove the cause of the inebriety.

Dr. BUCKE emphasised the fact that the drink habit in incipient paresis was symptomatic rather than causative.

Insanity in its Relation to the State.

Dr. J. RUSSELL (Hamilton, Ontario) then read a paper on this subject. He held the view that insanity was increasing in the lower classes of society, but not in the wealthier, and that the mass of the lunatics of to-day come from the uneducated class. They were being driven to the wall in the modern struggle for wealth and position.

Dr. DANIEL CLARKE, of the Asylum, Toronto, held that general paralysis came from the better classes, and that syphilis was only one of the causes of it. In his opinion, we should have to come to surgery to stay the present rate of degeneration.

Dr. EDWARD BRUSH (Baltimore) said there could not be a general distribution of wealth that would last, unless there were a general distribution of ability. He denied that the poor man was trodden down in these days. In every way his environment was better than a century ago.

Dr. URQUHART (Perth) stated that epilepsy was uncommon in Scotland, and mentioned the tradition, without asserting that it was true, that in days bygone castration had been performed on this class of cases.

Locomotor Ataxy as a form of Chronic Parenchymatous Degeneration of the Paraneural System.

Dr. VANGIESEN (New York) read an instructive paper illustrated by black-board drawings on this subject. He showed that the growth of our knowledge of the cell, with modern methods of staining, was doing much to unravel the intricacies of mental diseases. He said he thought the alienist in an asylum had a poor opportunity to study the beginnings of disease, as patients go to hospital after insanity has developed. Both the brain and insanity had hitherto been studied too much apart. It is necessary to see how the nervous system is involved in other diseases such as are found in general hospitals.

After a short discussion the meeting closed with a vote of thanks to the President (Dr. R. M. Bucke).

OPHTHALMOLOGY.

THURSDAY, SEPT. 2ND.

The Etiology of Trachoma.

Dr. G. T. STEVENS (New York) read a paper propounding a theory of the causation of trachoma. Relying for his theory upon the fact that trachoma is stated to be more prevalent in certain races presenting a special cranial conformation he conceived it possible that this structural difference might involve a tendency to imperfect equilibrium of the ocular muscles, and in this way the imperfectly protected eye would be rendered more susceptible to infection.

The discussion which ensued did not lend much support to this suggestion, the speakers who followed being more disposed to attach importance to the infective agent itself.

FRIDAY, SEPT. 3RD.

The Hypodermic Use of Pilocarpine in Eye Diseases.

A discussion was opened on this subject by a paper read by Dr. G. H. BURNHAM (Toronto), who described satisfactory results obtained in his practice by the use of the drug.

Dr. FRYOR (Kansas City) said that he had employed pilocarpine in hæmorrhages into the retina and in sympathetic ophthalmia, but that he never gave it in syphilis. He generally prescribed it with an alcoholic stimulant on account of the tendency to heart failure.

Dr. ALT (St. Louis) said that he had had some disagreeable experiences with pilocarpine, and Dr. C. H. WILLIAMS (Boston) advised that a fresh sterilised solution should

always be employed, as he had known abscesses to follow injections.

Dr. BURNHAM, in reply, said that he had never given alcohol when using pilocarpine. He guarded against heart failure by keeping the patient well covered up and in bed. He considered women more susceptible to pilocarpine than men.

The Importance to be Attached to Colour-blindness in the Marine and Railway Services.

Dr. W. H. SMITH (Winnipeg) introduced a discussion upon this subject by reading a paper upon it written by Mr. T. H. BICKERTON, Ophthalmic Surgeon to the Liverpool Royal Infirmary.

Dr. C. H. WILLIAMS (Boston) said that two things were necessary upon which Mr. Bickerton laid no stress—the test of colours with wools and the test with transmitted light through small openings.

Dr. MITTENDORF (New York) had control of the New York Central System. His method was to use Holmgren's test, and also to test with signals like those that the employé would have to recognise in his work. He thought that examinations should be held at frequent intervals, and not once and for all.

Dr. ALT said that he had not been able to impress the importance of the question on the management of the Missouri Pacific Railroad.

Dr. RIVERS (Boston) asked if a case of colour-blindness of one eye had been observed, to which the President of the Section, Mr. NETTLESHIP, replied that undoubtedly there were a few cases of monocular colour-blindness, though the condition was a rare one.

Dr. C. H. WILLIAMS said that all men coming into a company should be rigidly examined, and a company which did not do so would eventually be loaded with rejected men from other companies.

Dr. PRUME (Montreal) said that the question would probably be a Parliamentary one at the next meeting of the Dominion Legislature.

Dr. WURDEMANN (Milwaukee) read a paper on Skiascopy in Relation to other Methods of Estimating Ocular Refraction. He showed his apparatus, which was greatly commended by the members.—Dr. C. H. WILLIAMS read an interesting paper on Simulated Monocular Blindness.—Dr. FOUCHER (Montreal) contributed a paper, read by Dr. PRUME, on the Etiology of Dacryocystitis.—Mr. NETTLESHIP showed an instrument devised by Dr. E. P. JONES for irrigation of the lacrymal duct.—Dr. A. PROUDFOOT (Montreal) read a paper on the Value of Weak Lenses in Certain Cases.

The proceedings terminated with a vote of thanks to the President of the Section.

LARYNGOLOGY AND OTOLOGY.

THURSDAY, SEPT. 2ND.

The Significance of Laryngeal Paralysis.

A discussion upon this subject was opened by Dr. W. H. DALY (Pittsburg).

Dr. E. L. SHURLY (Detroit) spoke chiefly in regard to prognosis, specially insisting that structural lesions would be found more frequently in cases of hysterical paralysis if looked for.

Mr. LENNOX BROWNE (London) observed that the term hysterical aphonia was used owing to indolence. He held that aphonia from singing was attributable more to improper use of the voice than to its over-exercise.

Dr. D. B. DELAVAN (New York) insisted on the need of more investigations into right-sided laryngeal paralysis, and referred to two unusually persistent cases of diphtheria paralysis, one of which had lasted for three years and the other for sixteen years, with no return of the vocal powers.

Dr. W. PERMEWAN (Liverpool) referred to certain observations that he had made upon the condition of the larynx in general paralysis of the insane. In this disease abductor paralysis was very common, and he held that a very constant diagnostic sign of hysterical paralysis was the absence of all abductor paralysis. He concluded by relating a case of bilateral abductor paralysis due to pressure upon both recurrent nerves by an aneurysm.

A Case of Foreign Body removed from the Larynx by Partial Thyrotomy.

Dr. CHARLES H. KNIGHT (New York) read an interesting note on a case where a metal shoe hook had been removed successfully from the larynx. The patient was a boy, seven years old. The inspiration of the foreign body was followed by a violent attack of coughing and dyspnœa, which subsided in a few moments. Aphonia and very slight laryngeal stridor persisted. In about ten days after the accident the body was discovered by means of a laryngeal mirror lying in the right ventricle of the larynx, close to the anterior commissure. Numerous attempts at removal with forceps and by means of Kirstein's autoscope both with and without an anæsthetic failed. The external operation was done six weeks after the accident. The incision included the first two rings of the trachea and the lower half of the thyroid cartilage. The operation offered no unusual difficulties and convalescence was prompt. The voice was suddenly restored ten weeks later. Attention is drawn to the absence of serious subjective symptoms and to the importance of making an incomplete section of the thyroid cartilage, in order to ensure accurate re-adjustment of the parts and consequent preservation of vocal function.

Dr. J. N. MACKENZIE (Baltimore) read a paper upon the Physiological and Pathological relation between the Nose and the Sexual Apparatus, implying a connexion that we should be sorry to find many practitioners to consider to exist, though Dr. Fliess, of Vienna, has demonstrated what he terms the "genital places of the nose."—Dr. J. O. ROE (Rochester, N.Y.) read a paper upon the Correction of Nasal Deformities by subcutaneous operations.

FRIDAY, SEPT. 3RD.

An Artificial Larynx.

Dr. ANDERSON STUART, Professor of Physiology in the University of Sydney, Australia, gave a demonstration of an Artificial Larynx which he had designed.[1] In planning his instrument he found that a glottis permitting good respiration was too large for good phonation, and *vice versâ*. This he avoided by having reeds attached to his instrument to be used only as required for phonation. To ensure comfort he avoided having a complete metal tube, but made a framework of soft rubber, consisting of a soft rubber flat piece to be tied about the neck into which a rubber tracheal tube was inserted and the metallic portion containing the reed fitted snugly into this. Its advantages he claimed to be flexibility, ease of insertion and removal, cleanliness, and comfort. As ordinarily used the respiratory glottis gave very free entrance of air, and if the patient desired to phonate by occluding with his finger the respiratory glottis the air now directed through the reed passed by a specially devised tube upwards into the throat where the resonance chambers could be utilised as in natural phonation. The pharyngeal tube started from the upper part of the tracheal tube, and was devised from a coil of piano wire—being incompressible laterally and longitudinally, but quite flexible—covered with strips of thin rubber, and capped by a small valve of glove leather preventing the return of fluids into the tube. With this instrument a patient was able to converse quite freely.

The Ultimate Results of Operations on the Mastoid Process in Suppurative Ear-Disease.

A discussion on this subject was opened by Dr. F. BULLER (Montreal). He considered only that form of mastoid disease seated in bony structures and spoke of two varieties. First, and most common in adults, was the simple form with no caries or necrosis, in which there were granular cell contents or diffuse inflammation in bone or abscess in bone of the non-fœtid type with thick mucoid pus. Secondly, and most frequent in children, there was a purulent fœtid or ichorous discharge with either caries or necrosis. In the first class he had operated on many and found that after relief recovery had been complete and satisfactory and as a rule hearing had returned to the normal standard. In dealing with the second class he traced out to its utmost limits all inflamed and diseased products and removed them as far as possible; he mentioned his fear of wounding the facial nerve in the tympanum. The prognosis was not as good as in the simple form and hearing was more frequently left impaired. In extension to the cerebral cavity he had seen no good from treatment of pachymeningitis, but mentioned a successful operation for temporo-sphenoidal abscess.—Dr. Arthur H. BUCK (New York) spoke of acute and

[1] A full description of the instrument will be found in THE LANCET of April 17th, 1897.

chronic mastoid disease, the former due to invasion by micro-organisms, leading to occlusion of air cells and pent up suppuration. In removing bone he considered that not only should all softened bone be condemned but also that any highly congested purplish bone, even though bleeding, should be removed. He spoke of inflammation in the tip of the mastoid which was occasionally overlooked, but he thought the region above and behind the antrum was most to be feared. The chronic form he considered was due to less pathogenic bacteria.

Dr. CLARENCE J. BLAKE (Boston) then read a paper on the Ultimate Treatment of Mastoid Disease. This was based on a study of seventy-one cases with thirty-seven operations. He divided his cases into three classes: (1) inflammation of the contents of the mastoid; (2) inflammation of the contents and wall; and (3) suppuration in the walls with extension to the neighbouring organs. He spoke of Macewen's statement that American surgeons were afraid of the lateral sinus; he considered this still to be the case, and stated that it should cause less fear than the danger of wounding the facial nerve. Of his operations he divided them as follows: (1) simple cases healed by first intention, filling wound with blood clot, and wound closed; (2) more severe, but wall intact healed by granulation; (3) diseased wall, dura mater exposed; (4) extra-dural abscess; and (5) brain abscess. Dr. Blake closed with a full bacteriological report of all his cases, and showed some curettes which he used.

Dr. H. LEE MORSE (Boston) read a paper entitled "Remarks on the Anatomy of the Mastoid Portion of the Temporal Bone which have a practical bearing on the Operation for Opening the Mastoid," in which he demonstrated by four large diagrams and many photographs the Schwartze and Stacke operations and the relations of the field of operation to the surrounding structures in each case. He also showed eight carefully mounted and coloured bone specimens demonstrating all the different relations mentioned in the paper. He spoke of the necessity of using smaller curettes in operating on children on account of the limited space and softness of the bone.

Dr. A. H. BUCK then read a paper on the Non-operative Treatment of Chronic Suppurative Disease of the Antrum and Vault of the Tympanum.—Dr. F. BULLER followed with the report of a case of mastoid disease with thrombosis of the sigmoid sinus and internal jugular vein.—In the discussion on the subject of treatment of mastoid disease Dr. GORHAM BAKER mentioned twenty cases of brain complications following mastoid disease with fifteen recoveries under surgical treatment. He also spoke of the necessity for a wide opening on the surface of the mastoid for thorough exploration.

Chronic Inter-arytenoid Laryngitis.

Dr. PRICE BROWN (Toronto) reported four cases of this condition, in two of which lactic acid and in the other two nitrate of silver did good. He questioned whether they should be classed as pachydermia laryngis or simple inter-arytenoid laryngitis.—In discussing this paper the PRESIDENT referred to his experience in London, and thought these cases not uncommon. He found alkaline sprays of more service than astringents.—Dr. TROW (Toronto) mentioned similar cases, and Dr. PERMEWAN considered these to be pachydermia laryngis and preferred lactic acid in the treatment.—The PRESIDENT reported having made a microscopic examination and found it simply epithelial.—Dr. DELAVAN showed an electrolytic needle for use in the treatment of such cases.

Dr. H. V. WURDEMANN (Milwaukee) read a paper on Phosphoric Necrosis of the Temporal Bone which presented many points of peculiar interest.

The business of the Section then being completed, the PRESIDENT (Dr. Greville Macdonald), in a few well-chosen words, stated that he considered this a record year in the Section of Laryngology, both from the character of the papers and from the number of illustrious participants.

A vote of thanks was accorded to the President.

ANATOMY AND PHYSIOLOGY.

THURSDAY, SEPT. 2ND.

The Relative Efficacy of Chloroform and Ether as Nerve Anæsthetics.

The chief business of the section was the discussion on Anæsthetics, opened before a large attendance by Dr. A. D. WALLER (London), the President of the section. Dr. Waller's remarks were illustrated by experiments and lantern slides. After premising that an isolated nerve, regularly stimulated, gave regular electrical responses, and was thereby a most suitable tissue upon which to examine the modifying action of various drugs, Dr. Waller proceeded to show the comparative action of ether and of chloroform upon the excitability or "electro-mobility" of nerve. The first effect of ether and of chloroform was an augmentation of excitability, the nerve being rendered more "electro-mobile." The full effect of ether and of chloroform was an abolition of excitability, the nerve being immobilised and not responding to stimulation. Under ordinary conditions of experiment the "immobilisation" by ether was complete and temporary, being followed by recovery up to, and beyond, the normal; whereas the "immobilisation" by chloroform was complete and final, there being no recovery. The nerve had been anæsthetised by ether but killed by chloroform.

The gist of the paper was that chloroform acted upon nerve much more powerfully than ether, the inference being that chloroform was not a safe anæsthetic. For the convenience of members wishing to take part in the debate an illustrated summary of Dr. Waller's paper was published in the first issue (Wednesday, Sept. 1st) of the daily journal of the Association.—The paper was discussed by Professor RICHET (Paris), who was strongly of opinion that deaths under chloroform were due to cardiac, and not to respiratory, failure, and that therefore the heart was the thing to watch.—Surgeon-Colonel LAWRIE (Hyderabad, Deccan) followed, and stated his well-known views as to the inferences to be drawn from the experiments at Hyderabad, arguing that over-dosage was alone to be feared and that such over-dosage commonly resulted from irregular and gasping respiration.—Dr. L. E. SHORE (Cambridge) then described the results of experiments by himself and Dr. Gaskell which went to show that chloroform had a direct and primary depressing influence upon the heart.—Dr. GASKELL corroborated the views of Dr. Shore and an animated discussion arose between Surgeon-Colonel Lawrie and Dr. Shore.—Dr. WALLER then replied on the whole discussion and said that the views of the majority concurred with the conclusions he had drawn from his experiments.

FRIDAY, SEPT. 3RD.

The Physiology of the Heart's Beat.

Dr. W. H. GASKELL (Cambridge), in opening a discussion on this subject, said that he had no new facts to bring forward and had seen no reason to alter the views he expressed fourteen years ago—viz., that all parts of the heart were endowed with the power of rhythmical contraction quite independently of the presence of ganglion cells, but varying in degree in different parts. What, then, was the relation of the ganglion cells to the contraction? In his view simply an accidental relation, the heart being regarded as a modified longitudinal bloodvessel, and the ganglion cells remaining in their old situation in the least modified parts of the tube. These results had been entirely confirmed by the recent experiments of Englemann. (The objections to these views raised by Kaiser and others were briefly considered and refuted.) Other workers had confirmed the truth of these opinions as regarded the mammalian heart also. The ganglion cells did not possess any functions other than those which pertained to sympathetic cells elsewhere. They were, in fact, trophic for the post ganglionic nerve fibres, especially of the vagus nerve. Developmentally the cells were also of exactly similar origin as the other efferent ganglionic cells.

Professor PORTER (Boston) said that the crucial point was, Can any part of the heart which is quite devoid of ganglionic cells continue to contract rhythmically for any time? It might be that in the experiments which seemed to give an affirmative answer to this question the heart was really beating rhythmically to some abnormal and constant artificial stimulus. He described experiments he had made which went to show that the above question could be answered in the affirmative and that the objection indicated could be discounted.

Professor HOWELL (Baltimore) said that he had become more and more convinced of the truth of the views expressed by Dr. Gaskell. There were two hypotheses possible: (1) that the heart contracts in response to a stimulus developed by its own metabolism; of this no proof had been offered; and (2) that the stimulus is in the blood itself—i.e., from outside. He had made experiments to try to determine what the substance

in the blood might be which acts as a stimulus and considered that it was probably of an inorganic nature and not unlikely a calcium salt.

Professor MILLS (Montreal) criticised many of the statements of the previous speakers. He thought that the heart beat must be attributed to various factors, which vary quantitatively in different animals.

Dr. MELTZER (New York), Dr. MACCALLUM (Toronto), and Professor CARL HUBER (Ann Arbor) having spoken,

Dr. GASKELL briefly replied.

The Section closed with a vote of thanks to the President.

DERMATOLOGY.

FRIDAY, SEPT. 3RD.

Melanotic Conditions of the Skin.

On Thursday the section combined with the section of Pharmacology and Therapeutics. On Friday the proceedings commenced with a paper from Dr. COLEY (New York), who described his experiences in the treatment of several cases of melanotic conditions which had passed on to a malignant stage. He first considered shortly their anatomical and histological peculiarities in their relations to the prognosis of individual cases, and confirmed the general impression as to the extremely irritating effect of pigment occurring in wrong places. He mentioned then his experience of the treatment of these cases, and said that he had found that the antitoxic serums which had been found useful in other cases of sarcoma, especially of the spindle-cell variety, had produced no effect in the melanotic forms of the disease. He advocated the removal of any pigmented tissue in which the slightest sign of activity was becoming manifest.

Dr. J. GALLOWAY (London) followed with a paper describing a rare form of pigmentation of the skin in some respects resembling the melanotic whitlow described by Mr. Jonathan Hutchinson. In this case, however, the pigmentation had commenced on the sole of the foot apart from the nail of the toes, and the first lesion which had been noticed by the patient five years previous to his seeking advice was the occurrence of the repeated blisters on walking; ulceration finally made its appearance. The particular case mentioned had been operated upon; complete removal of the diseased structure had been carried out, and so far no recurrence had occurred. Taking this case as the basis of his remarks Dr. Galloway discussed the significance of pigmentary deposits in the skin in relation to their preceding malignant growths.

The PRESIDENT (Mr. Malcolm Morris) then continued the discussion and entered a strong protest against continual interference with moles or melanotic deposits, and said that when their removal was finally decided on the operation should be conducted with the greatest freedom, and that particular care should be taken to avoid all irritation of the pigmented area either by incision or by subsequent suppuration.

The Plurality of the Fungi causing Ringworm.

Dr. GALLOWAY demonstrated for Dr. COLCOTT FOX (London) a number of beautiful preparations showing the distinctive microscopic and cultural characteristics by means of which it is possible to distinguish different species of the fungi causing ordinary ringworm. Dr. Fox classified these fungi as follows: (1) the species now well known as the microsporon Audouini; (2) the endothrix fungus as mentioned by Sabouraud as one of the species of his division, the trichophyta; (3) the ectothrix fungus as described by Sabouraud; and (4) the faviform fungi. Dr. Fox criticised the descriptions which the French observer had given of the organs of fructification as distinguishing between various species of these fungi and remarked that he did not consider that the differences observed were sufficiently characteristic or of sufficiently vital importance to help in the formation of new species.

The Section closed with a vote of thanks to the President.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen, having passed the necessary examinations, have been admitted Diplomates in Public Health by the two Royal Colleges:—

Brind, Harry Hanslow, L.R.C.P. Lond., M.R.C.S. Eng.
Edwards, Henry James, L.R.C.P. and S. Edin.
Erskine, Robert, M.D., M.Ch., R.U.I.
Grandy, William Edward, M.B. Trin. Col. Dub., L.R.C.S. Irel.
Hardy, Henry Louis Preston, L.R.C.P. Lond., M.R.C.S. Eng., M.D. Brux.
Hoare, Edwin Stanley, L.R.C.P. Lond., M.R.C.S. Eng.
Home, George, M.D., M.B., C.M. Edin.
Horrocks, Herbert, L.R.C.P. Lond., M.R.C.S. Eng., M.B. Vict., M.D. Lond.
Lawrence, Sidney Cameron, L.R.C.P. Lond., M.R.C.S. Eng.
McCormack, Charles Vincent, L.R.C.P. Lond., M.R.C.S. Eng.
Martyn, Gilbert John King, M.A., M.B., B.C. Camb.
Salter, Alfred, L.R.C.P. Lond., M.R.C.S. Eng., M.D. and B.S. Lond.
Savage, William George, L.R.C.P. Lond., M.R.C.S. Eng., B.Sc., M.B. Lond.
Stanley, Arthur, L.R.C.P. Lond., M.R.C.S. Eng., M.D., B.S. Lond.
Thomas, Daniel Lewis, L.R.C.P. Lond., M.R.C.S. Eng., and L.S.A. Lond.

Six gentlemen were referred to their studies for six months.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the subjects indicated:—

Surgery.—J. B. Cautley (Section II.), St. Bartholomew's Hospital; F. M. Cooper (Section II.), Royal Free Hospital; J. F. Fox, Cork and Westminster Hospital; F. R. Greenwood, St. Bartholomew's Hospital; and H. Munro, Guy's Hospital.
Medicine.—E. C. Bailey, King's College Hospital; F. M. Cooper (Section II.), Royal Free Hospital; R. H. Hill, New York and Middlesex Hospital; and A. H. Turner, London Hospital.
Forensic Medicine.—E. C. Bailey, King's College Hospital; and R. H. Hill, New York and Middlesex Hospital.
Midwifery.—E. C. Bailey, King's College Hospital; F. M. Cooper, Royal Free Hospital; C. G. L. Dähne, St. Bartholomew's Hospital; A. J. Hayes, Middlesex Hospital; R. H. Hill, New York and Middlesex Hospital; A. H. Turner, London Hospital; and R. L. G. Worsley, St. George's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—Messrs. E. C. Bailey, C. G. L. Dähne, J. F. Fox, and A. J. Hayes, and Miss F. M. Cooper.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the College of Medicine, Newcastle-upon-Tyne, in the second examination for the degree of Bachelor of Medicine, the following candidates have satisfied the examiners:—

Anatomy, Physiology, and Materia Medica.—First Class Honours: Richard Henry Dix, College of Medicine, Newcastle-upon-Tyne.—*Second Class Honours:* Reginald Alderson, College of Medicine, Newcastle-upon-Tyne; Philip Meyler Perkins, St. Bartholomew's Hospital; Duncan Matheson Johnston, College of Medicine, Newcastle-upon-Tyne; Ralph Tennyson Jupp, Mason College, Birmingham; Frederic William Lambelle, College of Medicine, Newcastle-upon-Tyne; Gerald Burton-Brown, L.S.A., Guy's Hospital; James Robert Burn, College of Medicine, Newcastle-upon-Tyne; and Ernest Frederick Wharton Bywater, Mason College, Birmingham. *Pass List.*—Henry Braund, Guy's Hospital; Bernard Edward Granville Bailey, St. Bartholomew's Hospital; Robert Tilbury Brown, M.R.C.S., L.R.C.P., Guy's Hospital; Richard Henderson Garbutt, Arthur Hines, John MacFadyen, Robert Peart, Thomas Smirk Percival Parkinson, and George Woodyatt Procter, College of Medicine, Newcastle-upon-Tyne; Reginald Percy Richardson, Westminster Hospital; Eleanor Shepheard, London School of Medicine for Women; Leonard Satchwell Smith, Mason College, Birmingham; John Ernest Sidgwick, College of Medicine, Newcastle-upon-Tyne; Alfred Messer Thomas, Guy's Hospital; John Henry Tripe, London Hospital; Richard Thorne-Thorne, St. Bartholomew's Hospital; Thomas John Augustus Tulk-Hart, M.R.C.S., L.R.C.P., Guy's Hospital; Percy Edward Turner, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; and John Charles Velenski, College of Medicine, Newcastle-upon-Tyne.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. Max Stooss has been appointed Extraordinary Professor of Children's Diseases.—*Breslau:* Dr. Kader and Dr. Kühnan have been recognised as *privat-docenten* of Surgery and Medicine respectively.—*Greifswald:* Dr. Tilmann has been appointed to succeed Professor Heidenhein as Extraordinary Professor of Surgery.—*Marburg:* Dr. A. Schirmer, of Basle, has declined the invitation to the Professorship of Odontology.—*St. Petersburg (Military Medical Academy):* Dr. Rulbin has qualified as *privat-docent* in Medicine.—*Turin:* Dr. Sacerdoti, Dr. Penzo, and Dr. Ferria have been recognised as *privat-docenten* of General Pathology, Surgical Pathology, and Bacteriology respectively.—*Vienna:* Dr. Hugo Wintersteiner has been recognised as *privat-docent* of Ophthalmology.—*Zurich:* Dr. J. Ruge, of Amsterdam, has been

appointed Professor of Anatomy in succession to Dr. P. Stöhr.

VACCINATION GRANT.—Mr. F. W. Lewis, M.R.C.S. Eng., L.S.A. Lond., Public Vaccinator of the No. 1 District of the Llandovery Union, has for the tenth time in succession since his appointment obtained the Government grant for successful vaccinations performed.

THE INFECTIOUS DISEASES NOTIFICATION ACT AT ABERDARE.—After a struggle of nearly six years the Infectious Diseases Notification Act was on Sept. 10th adopted at the meeting of the Aberdare District Council by 9 votes to 3. The Act is to come into force on Dec. 1st next.

THE BAKERS' AND CONFECTIONERS' EXHIBITION.—This exhibition, which is to-day (Friday) brought to a close at the Agricultural Hall, Islington, is the fifth of its kind. One of the features of the Exhibition is the model bakery which has been erected at a cost of about £1600. Here the operations of dough-making and dough-dividing by machinery, bread-making, and the manufacture of pastry and confectionery are shown with the object of proving that the underground bakeries of the Metropolis are totally unnecessary.

PRESENTATION TO A MEDICAL MAN.—Mr. Robert I. Stevens, M.R.C.S. Eng., who has practised in Hoddesdon and district for upwards of forty years, on his retiring from practice, has been presented with a testimonial, the subscriptions for which amounted to about £260, contributed by nearly 300 residents. Out of this sum an annuity of £30 per annum was purchased, and on the 10th inst. he was the recipient of a deed conveying the annuity to him and a check for the balance, with an album in which the names of the contributors are inscribed.

THE SEWAGE DIFFICULTY AT MANCHESTER.—At the last meeting of the City Council the culvert scheme was passed by a vote of 49 to 9. But Mr. Norbury Williams, one of the elective auditors of the city, put in a protest against this decision, as 49 was not a majority of the whole council. 53 being required, since according to the Borough Funds Act no costs for promoting any Bill in Parliament can be charged on the city funds unless incurred under a resolution of an absolute majority of the council, to be confirmed by a ratepayers' meeting. The matter will, therefore, be brought up again at a meeting of the council to be held probably on Oct. 6th.

THE NEW MEDICAL DEFENCE ASSOCIATION, LIMITED.—At a meeting of the directors of this association held on Sept. 17th it was resolved to assist a member in an action brought against him, the cause of action arising from the fact that he had certified an infant's death as due to "hereditary syphilis." Dr. Leslie Phillips reported that the books were in the hands of the auditors, and that the accounts and report for the past year would be issued in the course of a few weeks. The accounts would again show a substantial increase to credit, and the cash position of the association, he believed, would allow the reduction of future annual subscriptions to 5*s.* instead of 10*s.* as at present.

DIPHTHERIA IN LONDON.—There were registered last week in the county of London 35 deaths from diphtheria, a number 10 in excess of the total of the week preceding, and identical with that of the week ended Sept. 4th. It was, however, 6 below the corrected decennial average for the corresponding weeks of the years 1887–96. Camberwell is credited with 5 of the deaths, and Battersea and Wandsworth sanitary areas each with 3 deaths, the northern and western groups of districts registering 18, and the central, eastern, and southern groups 17 deaths. Nineteen of the deaths were of children under 5 years of age, including 2 of infants, and only 2 were of persons aged over twenty years. The admissions to hospital in the week were 156, against 121, 131, and 140 in preceding weeks, and on Saturday last there were just 1000 patients under isolation and treatment for the disease. In the outer ring as many as 19 deaths from diphtheria were registered, of which 5 were registered in West Ham district, and 3 occurred in Edmonton district. Thus there were 54 deaths registered from the disease in "Greater London," with upwards of six millions of people, as compared with 12 in the other five millions of people in the remaining thirty great towns of the Registrar-General.

THE HEALTH OF BOMBAY.—We are glad to be able to report that the general mortality at Bombay is declining, although it still remains in excess of the normal amount. The deaths are mainly attributable to fever, dysentery, and cholera, although the last-named disease seems to have been decreasing during the past four weeks.

THE WOMEN'S HOSPITAL AT REDRUTH.—Mr. Passmore Edwards has promised to erect a new wing to the Women's Hospital at Redruth for the accommodation of sick children. This will be much appreciated by the industrial classes of West Cornwall. Details of the suggested addition will shortly be laid before the subscribers.

SANITARY MATTERS IN GLAMORGANSHIRE.—At a meeting of the Glamorganshire County Sanitary Committee held on Sept. 10th the sub-committee appointed to consider the question of establishing a laboratory for the department of public health reported in favour of such an institution. At this laboratory chemical and bacteriological examinations of water, sewage contamination, diseased tissues, &c., will be made. The advantages that will arise from such an establishment are obvious. The sub-committee of the Glamorganshire County Sanitary Committee have recommended that the salary of their medical officer of health should be increased to £800 per annum.

BABY FARMING AT STRETFORD.—A man and his wife were charged the other week at the Manchester county police-court with an offence under the Infant Life Protection Act at Stretford. Two infants were taken in to nurse, and one died at seven weeks old, having been in the charge of the defendants for three weeks. According to the Act all houses where more children than one were taken care of for more than twenty-four hours at a time should be registered. The defendants had not done this. There was no suggestion of ill-treatment. Five shillings weekly were paid with each child. The magistrates imposed a penalty of 5*s.* and costs, which came nearly to 30*s.* The male defendant said he would have no more children at his house.

THE LIFE SAVING SOCIETY'S HANDBOOK OF INSTRUCTION.—This useful little book has been specially prepared for teaching those able to swim how best to rescue persons in danger of drowning; if clutched, how to effect a release; and how to resuscitate the apparently dead. It deals with the theory of circulation, respiration, and resuscitation, and explains fully all the methods of rescue, &c., as set forth by the society. The book is interesting and is of great use to the swimmer. It is pleasing to be able to state that as a result of the many classes of instruction that have been held in all parts of the United Kingdom many cases of rescue by members have been reported this season.

LITERARY INTELLIGENCE.—Messrs. Baillière, Tindall, and Cox will publish next week a work on "Heart Disease," by Sir Wm. Broadbent, Bart., M.D., F.R.S. The publication has been delayed on account of the many calls on the author's time. They will also publish a new work on "The Roentgen Rays in Medicine and Surgery," by Dr. Walsh and Mr. Greenhill; a work with coloured plates on the "Essentials of Bacteriology," by Professors Lehmann and Neumann, with English translation; a handbook on "Air, Food, and Exercises," by Dr. Rabagliati; one on "Diagnosis," by Mr. Parkinson; and a new edition of Mr. Symons Eccles' work on "Massage."—"A Manual of Hygiene for Students and Nurses," by John Glaister, M.D., D.Ph. Camb., Professor of Forensic Medicine and Public Health, St. Mungo's College, Glasgow, will shortly be issued by the Scientific Press, Limited.—Messrs. J. & A. Churchill announce that they will publish on Oct. 1st a third edition of "Elements of Human Physiology," with several new illustrations, by Ernest H. Starling, M.D., F.R.C.P. Lond., Joint Lecturer on Physiology at Guy's Hospital; and an eleventh edition of "A Manual of Minor Surgery and Bandaging," by Christopher Heath, F.R.C.S. They also have in the press a work on "Maternal Syphilis, including the Presence and Recognition of Syphilitic Diseases in Women," with illustrations, by John A. Shaw-Mackenzie, M.D. Lond.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDERSON, J. LINDSAY, M.B., C.M. Glasg., has been appointed Dispensary Assistant Surgeon to the Royal Hospital for Sick Children, Glasgow.

BETHELL, A., M.R.C.S., has been re-appointed Medical Officer of Health by the Bridgnorth Rural District Council.

BURNETT, L. B., M.B., B.S. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed a House Surgeon to the Royal South Hants Infirmary.

CHITTENDEN, T. HILLIER, M.D., M.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COATES, B. O., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COUNIHAN, RANDAL, Dr., has been appointed Medical Officer of the Kilrush Union Hospital, vice J. E. Foley, resigned.

DAVIES, J. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Northern Sanitary Division by the Wrexham Rural District Council.

FRASER, H. E., M.A., M.B. Edin., has been appointed Medical Superintendent to the Dundee Royal Infirmary, vice Nathan Raw, resigned.

GALLOWAY, A. F., M.B., C.M. Glasg., has been appointed House Surgeon to the Royal Hospital for Sick Children, Glasgow.

GRAHAM, W., M.D. Irel., L.R.C.S. Edin., has been appointed Resident Medical Superintendent for the District Lunatic Asylum, Belfast, vice A. S. Merrick.

GRAVELY, W. H., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Cowfold Sanitary District of the Horsham Union.

HART, A. E., M.B., B.Ch. Camb., has been appointed Medical Officer for the Drypool Sanitary District of the Sculcoates Union.

HARTLEY, REGINALD, M.D., F.R.C.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

HITCHINS, FREDERIC C., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Royal Hants County Hospital, Winchester.

HOFFMEISTER, WILLIAM, M.D. Heidelberg, L.R.C.P. Lond., M.R.C.S., has been re-appointed Port Medical Officer of Cowes by the Cowes Port Sanitary Authority.

HOSKGOOD, S., M.R.C.S., has been re-appointed Medical Officer of Health by the Swinton and Pendlebury District Council.

O'CONNOR, J. E., M.B., B.Ch. Irel., has been appointed Medical Officer of Health for the Port of Lowestoft.

O'DRISCOLL, Dr., has been appointed House Surgeon to the Cork Mercy Hospital.

RUSHTON, J. L., M.D. St. And., M.R.C.S., has been re-appointed Medical Officer of Health by the Macclesfield Rural District Council.

SUMPTER, EUSTACE WYATT, M.B., B.S. Durh., has been appointed House Surgeon to the West Norfolk and Lynn Hospital, King's Lynn.

TEAGUE, D. G., M.B., C.M. Edin., has been appointed Fourth Resident Medical Officer to the Sussex County Hospital, Brighton, vice F. H. Sturdie, resigned.

THOMAS, D. L., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer by the Limehouse District Board of Works.

TORRENS, J., M.D., M.S., L.R.C.S. Irel., has been appointed Medical Officer for the Tryssll Sanitary District of the Seisdon Union.

WICKHAM, H. T., M.D. Edin., has been appointed Medical Officer for the No. 10 Sanitary District of Newport Pagnell.

WIGHAM, W. H., M.B. Durh., M.R.C.S., has been appointed Medical Officer for the Tenth Sanitary District of the Barnstaple Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £150 per annum (with an allowance of £30 per annum for cab hire), and furnished rooms, fire, lights, and attendance.

BRISTOL DISPENSARY.—Two Surgeons to the districts of this Institution. Applications to Mr. H. M. Stock, Small-street-court, Bristol.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Out-patient Physician. Also Clinical Assistant.

CHICHESTER INFIRMARY, Chichester.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Whittingham, Lancashire.—Assistant Medical Officer, unmarried. Salary £100 per annum, with prospect of increase, together with furnished apartments, board, attendance, and washing.

GENERAL HOSPITAL, Nottingham.—Assistant House Surgeon for twelve months. Salary £50, with board, lodging, and washing in the hospital. Also Assistant House Physician for twelve months. Salary £50, with board, lodging, and washing in the hospital.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Also Resident Medical Officer and Assistant Resident Medical Officer. Salary £200 and £50 per annum respectively, both with board and residence.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence, washing, and board provided, and an honorarium given at the termination of the appointment.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch, N.E.—Junior House Physician for six months. Salary £15 for that period, with board and residence.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

PARISH OF ST. MARY, ISLINGTON.—Resident Second Assistant Medical Officer, who is also to act as Dispenser if required, at the Workhouse and Infirmary, St. John's-road, Upper Holloway. Salary £80 per annum, subject to statutory deductions, and rations, apartments, and washing. Applications to the Clerk, 131, St. John's-road, Upper Holloway, N.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London, E.C.—House Physician for six months. Salary at the rate of £40 per annum, with board, lodging, and washing. Also Resident Medical Officer for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing.

ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon.

SCHOOL BOARD FOR LONDON, Offices, Victoria Embankment, W.C.—Medical Officer for the Gordon House Girl's Home, Richmond-road, Isleworth. Salary £40 per annum. Applications to the Clerk to the Managers, Offices, Victoria Embankment, W.C.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

STOCKTON AND THORNABY HOSPITAL.—House Surgeon, non-resident. Salary £200 per annum.

SUSSEX COUNTY HOSPITAL, Brighton.—Assistant House Surgeon, unmarried. Salary £30 per annum, with board, washing, and residence in the hospital.

SWANSEA GENERAL HOSPITAL.—House Physician for one year. Salary £50 per annum, with board, apartments, laundress, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BARCLAY-SMITH.—On Sept. 16th, at Bateman-street, Cambridge, the wife of E. Barclay-Smith, M.D., of a son.

EVANS—On Sept. 10th, at Seaton, the wife of Geo. E. A. Evans, M.R.C.S., L.R.C.P. Lond., of a son.

HALL.—On Sept. 18th, at Seacombe, Adelaide-road, Surbiton, the wife of Edgar A. Hall, M.B., C.M. Edin., of a son.

HOSSACK.—On Sept. 20th, at The Pentlands, Woodbridge-road, Ipswich, the wife of James Hossack, F.R.C.S. Edin., of a daughter.

MORGAN.—On Sept. 18th, at Hurdis House, Seaford, Sussex, the wife of W. Pringle Morgan, M.B., of a daughter.

MOULD.—On Sept. 19th, at Grafton House, Sandgate, the wife of Surgeon-Captain W. T. Mould, A.M.S., of a son.

MARRIAGES.

BROWN—EVANS.—On Sept. 16th, at St. Margaret's, Westminster, F. L. Brown, M.D. Edin., son of the Rev. George Brown, of Pau, France, to Rosalie, daughter of the late Manlius G. Evans, of Philadelphia, U.S.A.

EDWARDS—MCCALLUM.—On Sept. 15th, at Holy Trinity Church, Bedford, John Hammerton Edwards, M.D., M.A. Camb., of Aadneven, Bedford, to Grace Alice McCallum, widow of James Braddon McCallum, M.A., C.E., of Blackburn.

IRVINE—THOMAS.—On Sept. 15th, at the Oratory, Brompton, Gilbert Marshall Irvine, B.A., M.B., fourth son of Joseph James Irvine, The Hollow, Mountmorris, co. Armagh, to Mary, only daughter of the late John Thomas, of Cork.

DEATHS.

CARNELLEY.—On Sept. 18th, in his 41st year, at Fallowfield, Matthew Carnelley, M.R.C.S., L.R.C.P., of Ruddington, Nottinghamshire, the dearly loved son of William Carnelley, of Fallowfield, Manchester.

HARRAL.—On Sept. 14th, suddenly, at Thames Ditton, Surrey, Francis Blagdon Harral, M.D., aged 93 years.

WRIGHT—On Sept. 17th, Strethill Harry Wright, M.D. Edin., of Ganarew Manor, near Monmouth, aged 51 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), ing's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

WEDNESDAY (29th).—CITY ORTHOPÆDIC HOSPITAL (Board Room, Hatton-garden, E.C.).—5 P.M. Mr. Noble Smith: Some Typical Forms of Curvature of the Spine.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1897, which was completed with the issue of June 26th, was given in THE LANCET of July 3rd. It is intended, in future, to include the Index and Title-page for each past half-yearly volume in the first number of the succeeding volume, as in the present case, instead of in the last number of the volume itself, as heretofore.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

ATTACK OF WITCH DOCTORS ON MEDICAL MISSIONARIES IN RHODESIA.—THE *Edinburgh Evening Despatch* of the 17th inst. gives an account of the attack of native witch doctors on Dr. and Mrs. Owen, of Zimunya, Rhodesia, where they had established themselves for medical missionary purposes. Zimunya is a lonely station, consisting of three huts and a tent on the summit of a high mountain in Mashonaland, about twenty-five miles from Umtali. Staying with them was a friend, the Rev. L. M. Caulfield, of Umtali, who fortunately had brought with him his collie dog. About four in the morning they were all roused by the barking of the dog, only to find the witch doctors making a fierce attack on the mission-house. Dr. Owen fired at the miscreants, but they made a hasty retreat, and unfortunately escaped. It was then found that the dog had been killed by the blow of an assegai. The Rev. Mr. Caulfield attributes the attack to the jealousy of the native witch doctors, who for many generations have attended the sick, and, it would seem, have been well paid for their services—sometimes, it is said, to the equivalent of £4 or £5 a case. They found their occupation gone and their reputation eclipsed by the enlightened treatment of Dr. Owen, for which no charge was made. It is inevitable that in Africa, as elsewhere, the witch doctor must be superseded by the educated physician, and we congratulate Dr. and Mrs. Owen on the happy ending of what might have been a serious disaster. We are not entirely without sympathy with the superseded local practitioners. They upheld the dignity of the art in one respect—they charged for their services, and it is open to them to say that their successful competitor owed his success rather to the fact that his advice was gratuitous while theirs was not. The missionary uses of medicine are most legitimate and beneficent, and in the case of the poor they must be applied without money and without price, but the more free from pauperising abuse it is the better. If the natives can pay, as apparently was the case with many of the people there, they should be required to do so. In introducing the virtues of religion into barbarous countries we must try not to introduce its vices.

Lungs.—We do not know of any book. Our correspondent should make inquiry locally.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—I shall feel much obliged if any of your readers can inform me of an institute where a patient of mine can be placed as a permanent voluntary boarder. He is about sixty-five years of age, but mentally weak, not troublesome in any way, but nervous and despondent. His means are small, about 30*s.* per week.

I am, Sirs, yours faithfully,

Sept. 16th, 1897. H. N. W.

A RAILROAD HOSPITAL CAR.

A NEW hospital car has been built for the Long Island Railway Company, U.S.A., under the supervision of Dr. Valentine, chief surgeon to the company. In exterior appearance it resembles an ordinary Pullman car, but the internal arrangements are adapted to the needs of those who may be the victims of a railway accident. The car is fitted with seventeen cots, while in emergency hammocks can be swung from the ceiling; there is also a fully equipped operating room. The car is to be kept always in readiness for despatch to the scene of any accident that may unfortunately occur.

Mr. S. Gross.—"Text-book of Chemical Physiology and Pathology," by W. D. Halliburton, M.D., B.Sc. Lond. London: Longmans, Green, and Co.

"A CASE OF HEMICHOREA WITH APHASIA."

To the Editors of THE LANCET.

SIRS,—Dr. S. J. Ross, in THE LANCET of Sept. 18th, reports upon a case under the above heading. The clinical history is most interesting and raises anew a vast and much-trodden subject for discussion. Following the history come Dr. Ross's remarks upon the pathology and treatment, Gowers's theory of "lowered resistance on the part of the cerebral cells," and the "neurogliosis" theory of other authorities being submitted as the possibly true pathological cause; and, for treatment, *arsenic* is exalted by Dr. Ross as an absolute control power over course and symptoms—"a control which no other drug possesses." In justice to Dr. Ross I must add that he makes exceptions, and names chloral hydrate and bromide of potassium in the early stage treatment of convulsive or epileptiform varieties of chorea. The patient, a girl aged fourteen years, with a *rheumatic history* and a *well-marked mitral regurgitation*, is thrown from a cart. A few days later appear the following symptoms: "Marked cerebral instability ..... Dilated pupils ..... marked choreiform movements of the right arm and leg. Right knee-jerk exaggerated, left being normal. Sensation normal. Cardiac irregularity, mitral systolic murmur, and accentuated pulmonary second sound. Aphasia." These symptoms were successfully treated by arsenic and rest, and in six weeks the girl had recovered her speech power. Now, I submit, is "lowered cell resistance," or even "neurogliosis," a satisfactory or sufficiently clear an explanation of these symptoms? Or, again, is the statement that arsenic possesses over these symptoms "a control which no other drug possesses" to pass unchallenged? Without undue partisanship might one not point to this case as favouring Dr. Kirke and Dr. Hughlings Jackson's theory—"embolism"? Here we distinctly have cause and effect: (*a*) valvular incompetence, with, in all probability, old endocarditic vegetations; and (*b*) shock, displacement of vegetation and embolism, followed by definite cerebral symptoms. Now comes our "lowered cell resistance"—our "neurogliosis," which, passing through a definite six weeks' stage, ends in convalescence. Your space will not permit me to combat or quote the many hypotheses on this subject; but Dr. Ross's case seems so confirmatory of the "embolic" theory that I venture the above criticism. Of the value of arsenic in these cases there can be no dispute. It possesses undoubted powers over chronic "rheumatism," of "malarial" origin especially. But what about the salicylates? In chorea with endocarditis I have rarely failed to obtain definitely successful results with salicylates of soda; but, as I remarked in THE LANCET some years ago (July 9th, 1892), my experience was in the chorea of children and not in adults; and, finally, after all our arguments in favour of rheumatic, i.e., endocardial, embolism, "lowered cell resistance," "neurogliosis," &c., of what pathological significance have those cases of induced chorea—if I may so term them—where from the mere presence of one case in a children's ward others will arise, *de novo*, among the neighbouring children? I am well aware of the anatomical difficulty in supporting the "embolic" theory, and, also, having had in other days the immense advantage of Dr. Howship Dickinson's teaching, am aware that my much respected master held his own theory, "the widely spread hyperæmia of the nervous centres ..... induced by the 'rheumatic' condition," independently of any mechanical mischance. These (Dickinson) vascular changes and induced sclerosis accounting for the wasting, rigidity, and permanent paralysis. In view of all these theories, facts supported by clinical observation, such as in Dr. Ross's case, are of much value in elucidating the truth of this interesting pathological problem.—I am, Sirs, yours faithfully,

HUGHES REID DAVIES, M.R.C.S. Eng., L.R.C.P. Lond.
Bow, E., Sept. 20th, 1897.

Dr. Leopold Mayer is thanked for his offer, of which we are unable to avail ourselves.

QUINE'S PATENT SANITARY ASHBIN.

WE have had brought to our notice this useful backyard sanitary appliance, which was exhibited at the Sanitary Conference at Leeds, where it met with deserved approval. It is designed to obviate uncleanliness in and around the spaces where the ashbin is commonly kept. It consists simply of a scuttle let into a wall, which on releasing a bolt will tilt and discharge its contents outside into a barrow or cart for removal. The bin may thus be emptied without the dustman entering the yard at all and is closed to the outside until it is so tilted. The method is admirable, as it prevents the distribution of dust and garbage during the act of removal in the open spaces around the house, and the inconvenience of the scavenger coming into the house or yard is done away with. Objectionable smells arising from the accumulation of house refuse in this manner are avoided. The appliance is made by the Pendleton Sanitary Engineering Company, 1, Leaf-square, Pendleton, Manchester.

THE STERILISING OF DENTAL APPARATUS.

To the Editors of THE LANCET.

SIRS,—I had recently occasion to take a child, aged eleven years, to a dentist for the removal of a tooth. Gas was administered, and the child returned home apparently all right. The next morning the mother called on me and stated that the child had passed a rather restless night, and had some slight difficulty in swallowing, but did not seem feverish. I made a visit in the evening and examined the child's mouth. The wound in the gum was healthy, but there was a small, yellowish patch on the left tonsil which I had no hesitation in pronouncing to be diphtheria. On inquiry I elicited that the patient had felt her throat a little "sore" on the night previous to her having the tooth out. I called on the dentist and warned him of the case. Had this patient diphtheria at the time of her visit to the dentist? If so, then one can see what a potent source of infection the forceps, mask, tumbler, &c., can become, more especially in the case of children, unless they are thoroughly sterilised after each operation, and it is with the intention of putting dentists on their guard that I send notes of the case.

I am, Sirs, yours faithfully,
Sept. 21st, 1897. MARCUS GLANVILLE.

P.S.—I have just heard that the child has died in hospital from paralysis.

THE X RAYS AND THEIR APPLICATION IN DENTISTRY.

DR. W. J. MORTON recently read an interesting paper on this subject and exhibited a number of skiagraphs before the Odontological Society of New York. He believes that the x rays will be found of great value in diagnosis and open up a wondrous field for investigation and study. He says: "Each errant fang is distinctly placed, however deeply embedded within its alveolar socket; teeth before their eruption stand forth in plain view; an unsuspected exostosis is revealed; a pocket of necrosis, of suppuration, or of tuberculosis is revealed in its exact outlines; the extent and area and location of metallic fillings are sharply delineated, whether above or below the alveolar line. Most interesting is the fact that the pulp-chamber is beautifully outlined, and that erosions and enlargements may be readily detected." Many of these points are clearly shown in the reproductions of the skiagraphs in the *Cosmos*. We can readily believe in the utility of the x rays in dental surgery; thus in the case of a fang of a tooth having been forced into the antrum during an effort at extraction, it is often with the greatest difficulty that it is localised by means of the probe.

A NEW DEPARTURE IN JOURNALISM.

SUBSCRIBERS to *Le Temps* living in Paris are privileged to take part in the x-ray conferences with experiment which are held periodically in the offices of that journal. It is, of course, well known that, thanks to Professor Roentgen's discovery, many opaque things are rendered transparent, so any doubter who has been unfortunate enough to pass under the surgeon's hands for fracture can now satisfy himself that his case has been treated properly. On a late occasion M. A. Rémond, the engineer who is in scientific charge of the x-ray machine for the proprietors of *Le Temps*, presided at what may be called a surgical-control *séance*, when several individuals whose limbs had been broken and duly "set" *secundum artem* by qualified men came forward in order to have their fears either confirmed or allayed. There was, of course, no need to loosen bandages or remove splints; the searching rays pierced through these flimsy appliances with the utmost ease, and apparently all was found to be in order, for the record says nothing to the contrary.

A GYNÆCOLOGIST'S LOCUM TENENS.

MEDICAL men returning home from a holiday are fortunate if they do not find that something has gone wrong with their practice during their absence. It is to be hoped, however, that none of our readers—many of whom are doubtless just now returning from abroad or from the country—may hear of such a very unpleasant fraud as that which has been perpetrated on Dr. Tauffer, professor of gynæcology in the University of Budapest, and his patients. During the professor's absence a country farmer brought his wife for advice. In the ante-chamber they saw a very solemn-looking gentleman of aristocratic mien, who, on their inquiries for the professor, informed them that he was the professor himself. He then listened to what they had to say and examined the patient, informing her that there was nothing very serious wrong. His fee, he said, was 10 gulden, which was paid. The next day the worthy couple bethought them that 10 gulden was a good deal for a single consultation and that they might as well have another for their money. On arriving at the professor's house whom should they see but the great man himself, who had so impressed them the day before, chatting familiarly with a cabman on his box. He did not, however, await them outside, but discreetly betook himself indoors. On coming up to the cabman the farmer remarked that he did not know the eminent professor could be so familiar. His surprise may be imagined when the cabman gave him a contemptuous look and said, "That isn't the professor; that's his butler." Of course, after this there was no more thought of a consultation—of a medical character, at least. The farmer wanted his 10 gulden back and sped to the police station, the result of his visit being that the butler was safely lodged in prison. It was then discovered that during his master's absence the butler had seen, examined, and taken fees from quite a number of patients, chiefly, of course, gynæcological cases. What the Hungarian law courts will have to say to such a proceeding remains to be seen. What the patients think of the matter may be imagined rather than described.

CONNAUGHT AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—Now that winter is approaching a great deal is being written in THE LANCET and elsewhere about sanatoria and health resorts. The worst of these health resorts is that they are too far away, and are practically useless for the vast majority of invalids residing in Great Britain; besides, I am not aware that these so-called health resorts have ever been tested by a registrar-general. Health resorts and sanatoria to be of any use must be near at hand and easy of approach. It must have struck readers of THE LANCET who have perused the report of the Registrar-General of Ireland for 1896, lately issued, that the Green Isle is a salubrious place, especially the province of Connaught, the mortality of that large district of country being only 12·3. Now, I think there are few health resorts the wide world over that can show so favourable a bill of mortality as this. Connaught, it will be remembered, signifies the country possessed by the children or posterity of Con. Con—commonly called Con of the Hundred Battles—was monarch of Ireland in the second century of this era. The more ancient name of Connaught, however, was Olnegmacht, so-called from Olnegmacht, an ancient Queen of the Firbolgs. The country is noted for its varied and beautiful scenery, its numerous relics of long past ages, and for the important events which have occurred there. Old annalists tell us that the first colony that settled in Connaught was the Parthalanians, from Parthalon, their leader. Then followed the Firbolgs; after these the Inatha De Danaans, and subsequently the Milesians under the three Princes—the three brothers, Heber, Heremon, and Ir. The Milesians soon dominated Connaught as well as all Ireland. All these colonies were Scythians or Celts and spoke the same Celtic language, as did also the ancient Gauls and Britons. The Milesians invaded Ireland about a thousand years before the Christian era. The Inatha De Danaans, the predecessors of the Milesians, were a highly civilised people, skilled in arts and sciences, and possessing some knowledge of the healing art. O'Brien considers that the Round Towers were built by them for pagan worship and astronomical purposes. The Danaans gave the name of Inis Fail to Ireland, signifying the Island of Destiny, from a remarkable stone brought with them into Ireland called Lia Fail, or Stone of Destiny. For upwards of sixteen centuries the Kings of Ireland, sitting on this stone, were crowned at Tara, but in the sixth century the Lia Fail was lent by the Irish monarch for the coronation of his kinsman, Fergus, King of Scotland. The stone was never returned to Ireland, but was kept at the Abbey of Scone until it was brought to England by Edward I. and placed in the coronation chair in Westminster Abbey, where it now rests.—I am, Sirs, yours faithfully,

WILLIAM O'NEILL, M.D. Aberd., M.R.C.P. Lond., &c.

Lincoln, Sept. 13th, 1897.

A WANDERING NEEDLE.

A CORRESPONDENT has submitted to our notice the following interesting case: "The patient," he writes, "a woman, aged about thirty-five years, came into the surgery on the morning of Sept. 7th saying she thought she had a needle in her *left* arm. On examination I had not the slightest difficulty in ascertaining that such was the case, for I could feel the needle distinctly. It was lying in an oblique position in the forearm, near the wrist; the one end of it could be felt anteriorly and the other posteriorly. Consequently I had not much difficulty in extracting it. It proved to be a fairly stout needle with the eye end of it broken off, and measured just over one and a half inches in length. She gave the following history. Twelve months ago she trod upon a needle with her *right* foot, but it was not extracted. Her foot gave her little or no pain until about three months ago, when she thought she felt the needle there. She went to the General Hospital, Birmingham, and a skiagraph of her leg was taken, but nothing could be found, which can now be easily explained by the fact that by that time it must have left the leg. The extraordinary feature of the case is that the needle should pass from the right foot to the left forearm without causing the patient more inconvenience than it did." We agree with our correspondent that the case is an extraordinary one. The travelling proclivities of needles have often been manifested, but never in quite so striking a manner. How does our correspondent know that he extracted the same needle as previously entered the patient's leg?

Mr. G. Careles.—Our correspondent will probably find that Squire's "Companion to the British Pharmacopœia" will help him. There are also some very useful hints in Martindale's "Extra Pharmacopœia." "Selecta e Prescriptis" did not, so far as we remember, contain information on dispensing, except as to terminology, but chiefly formulæ.

ERRATUM.—Dr. A. E. Wright informs us that the sentence, "What is our measure of the alkalinity of *the* fluid which does not contain free *salts*" (col. 1, line 27, page 719), should read: "What is our measure of the alkalinity of *a* fluid which does not contain free *bases*."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 23rd, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Sept. 17	29·75	W.	0·48	104	65	49	52	55	Cloudy
" 18	29·57	N.W.	0·03	97	57	49	48	50	Cloudy
" 19	29·75	N.	0·07	99	59	42	45	48	Fine
" 20	29·83	N.	0·03	100	63	47	51	53	Cloudy
" 21	29·71	W.	...	97	68	52	54	56	Cloudy
" 22	29·91	W.	...	98	60	50	49	52	Overcast
" 23	29·79	W.	...	106	67	51	54	56	Fine

During the week marked copies of the following newspapers have been received:—*Burnley Express, Cumberland Advertiser, Bournemouth Directory, Dundee Courier, North British Daily Mail, Cambridge Chronicle, Carlisle Journal, Newcastle Leader, Times of India, Pioneer Mail, Western Morning News, East London Advertiser, Manchester Guardian, Royal Cornwall Gazette, Middlesborough Evening Telegraph, Norfolk Chronicle, Leeds Mercury, Architect, Kentish Observer, Keighley News, Liverpool Daily Post, Westmeath Examiner, Eastern Morning News, Sheffield Independent, Builder, Luton Reporter, Bristol Mercury, North Wilts Herald, Leighton Buzzard Reporter, Ampthill News, Yorkshire Post, Ripley Advertiser, Dunstable Advertiser, Lowestoft Standard, Kidderminster Shuttle, Staffordshire Chronicle, Scotsman, Wolverhampton Chronicle, Birmingham Mail, Oldbury Weekly News, Hampshire Independent, Wallsall Advertiser, Sussex Daily News, Leicester Post, Salisbury Journal, Bridgewater Independent, Herald of Wales, Heckmondwike Reporter, Local Government Chronicle, Mining Journal, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Yorkshire Evening Post, Family Herald and Weekly Star, Montreal Sanitary Record, Reading Mercury, City Press, Public Health Engineer, Local Government Journal, Surrey Advertiser Gazette, Montreal Logos Echo, West Africa Logos standard, Birmingham Post, Bedford Standard, Mid-Sussex Times, Devizes and Wiltshire Gazette, Watford Observer, Nuneaton Chronicle, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. F. J. Allen, Leeds; Messrs. Allman and Son, Lond.; Messrs. Arthur and Co., Lond.; Messrs. Allen and Hanburys, Lond.; Dr. F. H. Alderson, Lond.; Association for the Supply of Pure Vaccine Lymph, Lond.; Æsculap; Bitter Water Co., Lond., General Manager of; Messrs. Armour and Co., Lond.; Messrs. J. and R. Archibald, Tillicoultry; A. D. L., Lond.

B.—Mr. W. H. Brown, Leeds; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. J. Bramley. Moore, and Co., Liverpool; Bovril Ltd., Lond.; Brin's Oxygen Co., Lond., Secretary of; Messrs. Brady and Martin, Newcastle-on-Tyne; Dr. Paul Bartholomew, Philadelphia; Sir J. Crichton Browne, Lond.; Mr. R. C. Brown, Lond.; Mr. W. H. Best, Ilford; Messrs. Baillière, Tindall, and Cox, Lond.; T. B. Browne, Ltd., Lond.

C.—Dr. W. Carter, Liverpool; Mr. C. G. Campbell, Saddleworth; County Asylum, Whittingham, Secretary of; College of Preceptors, Lond., Secretary of; Chichester Infirmary, Secretary of; Dr. J. J. Clarke, Lond.; Chester Free Library, Librarian of; Messrs. Crossley, Moir, and Co., Lond.; Cicero, Lond.; Chelsea Hospital for Women, Secretary of; Mr. T. Cooke, Lond.; Messrs. F. Comar et Fils, Paris; Mr. R. J. Colenso, Lond.; Mr. J. E. Cornish, Manchester.

D.—Mr. W. F. Dale, Welling; Dr. C. R. Drysdale, Lond.; Delta, Bristol; Dr. F. C. Doremus, Green Village, N.J., U.S.A.; Messrs. H. C. Devon and Co., Lond.

E.—Mr. C. W. Edwards,

F.—Mr. C. Fleming, Worksop; Messrs. Fuller's, Ltd., Lond.; Messrs. J. S. Fry and Sons, Bristol; Dr. J. A. Fordyce, New York.

G.—Mr. A. W. German, Preston; Mr. W. F. Gardener, Lond.; Mr. G. Gresswell, Grimby; Dr. G. A. Gibson, Edinburgh; Messrs. A. Gallenkamp and Co., Lond.; Mr. M. Glanville, Lond.; Glasgow Royal Infirmary, Superintendent of; Grocer, Lond.

H.—Dr. G. B. Hunt, Lond.; Mr. W. L. Hubbard, Rugeley; Messrs. C. J. Hewlett and Son, Lond.; Herren Haasenstein and Vogler, Köln; Dr. T. W. Hime, Bradford; Mr. T. Holland, Lond.; Mr. D. P. Heatley, Edinburgh; Dr. D. W. C. Hood, Lond.; Mr. Otto Holst, Eastbourne; Mr. E. Huxley, Lond.

I.—Messrs. J. G. Ingram and Son, Lond.; Messrs. Ingram and Royle, Lond.

J.—Jarvis, Canada, Assistant Postmaster of; Messrs. Jones Bros., Clifton.

K.—Messrs. R. A. Knight and Co., Lond.; Mr. C. W. Krohne, Lond.

L.—Dr. J. A. Lindsay, New York; Mr. R. M. Little, Lond.; Messrs. Lee and Martin, Birmingham; Mr. R. Lake, Lond.; Mr. H. K. Lewis, Lond.

M.—Mr. G. J. T. Merry, Lond.; Mr. J. Mackenzie, Kirkby-in-Ashfield; Mr. C. J. Mayhew, Minster; Mr. D. Misell, Lond.; Messrs. C. Mitchell & Co., Lond.; Mr. B. G. A. Moynihan, Leeds; Mrs. R. C. Michell, Marazion; Dr. T. J. Monaghan, Accrington; Medical Society of Victoria, Melbourne, Secretary of; Messrs. Matthews Bros., Lond.

N.—Mr. W. J. Nicholls, Lyme Regis.

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